

Glenn

THE

UNIVERSITY of MARYLAND

BULLETIN

Summer School

1963



The provisions of this publication are not to be regarded as an irrevocable contract between the student and the University of Maryland. The University reserves the right to change any provision or requirement at any time within the student's term of residence. The University further reserves the right at any time, to ask a student to withdraw when it considers such action to be in the best interests of the University.

Summer School

1963



UNIVERSITY OF MARYLAND

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ADMISSION AND REGISTRATION PROCEDURES*

ADMISSION: All New students must be formally admitted to the University through the Admission's Office, College Park campus.

Undergraduate: Must file application with Director of Admissions by June 8, 1963.

Graduate: Application for admission and all supporting records must be in the office of the Dean of the Graduate School by June 1, 1963.

REGISTRATION:

College of Education only:

1. Begin at South-West door of Armory and only according to the alphabetical schedule posted on page vii of this catalog.
2. Undergraduate and Special Students must have schedule cards signed by adviser and Dean of College of Education.
3. Graduate students must have schedule cards signed by adviser, Dean of the College of Education, and the Dean of the Graduate School (all located in the Armory).

ALL OTHER COLLEGES

1. Begin at the respective college office.
2. Schedule cards must be signed by the student's adviser and dean.
3. Graduate students must have signatures of Dean of the Graduate School (either in Graduate office or in Armory).
4. Complete registration at the Armory.

*Registration is Neither Complete Nor Official Until All Forms
Are Submitted and Fees Are Paid*

* For details see page vii.

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UNIVERSITY CALENDAR

FALL SEMESTER 1962

SEPTEMBER

- 17-21 Monday to Friday—Registration
- 24 Monday—Instruction begins

NOVEMBER

- 21 Wednesday, after last class—Thanksgiving recess begins
- 26 Monday, 8:00 a.m.—Thanksgiving recess ends

DECEMBER

- 21 Friday, after last class—Christmas recess begins

JANUARY 1963

- 3 Thursday, 8:00 a.m.—Christmas recess ends
- 23 Wednesday—Pre-Examination Study Day
- 24-30 Thursday-Wednesday—Fall Semester Examinations

SPRING SEMESTER 1963

FEBRUARY

- 4-8 Monday to Friday—Registration
- 11 Monday—Instruction begins
- 22 Friday—Washington's Birthday, Holiday

MARCH

- 25 Monday—Maryland Day (not a holiday)

APRIL

- 11 Thursday, after last class—Easter recess begins
- 16 Tuesday, 8:00 a.m.—Easter recess ends

MAY

- 15 Wednesday—AFROTC Day
- 30 Thursday—Memorial Day, Holiday
- 31 Friday—Pre-Examination Study Day

JUNE

- 1-7 Saturday to Friday—Spring Semester Examinations
- 2 Sunday—Baccalaureate Exercises
- 8 Saturday—Commencement Exercises

SUMMER SESSION 1963

JUNE

- 24 Monday—Registration, Summer Session
- 25 Tuesday—Instruction begins

JULY

- 4 Thursday—Independence Day, Holiday

AUGUST

- 16 Friday—Summer Session ends

SHORT COURSES 1963

JUNE

- 17-22 Monday to Saturday—Rural Women's Short Course

AUGUST

- 5-10 Monday to Saturday—4-H Club Week

SEPTEMBER

- 3-6 Tuesday to Friday—Firemen's Short Course

UNIVERSITY CALENDAR

FALL SEMESTER 1963

SEPTEMBER

- 16-20 Monday to Friday—Fall Semester Registration
- 23 Monday—Instruction Begins

NOVEMBER

- 28 Wednesday—Thanksgiving Recess Begins After Last Class

DECEMBER

- 1 Monday—Thanksgiving Recess Ends 8 a.m.
- 20 Friday—Christmas Recess Begins After Last Class

JANUARY 1964

- 6 Monday—Christmas Recess Ends 8 a.m.
- 22 Wednesday—Pre-Examination Study Day
- 23-30 Thursday to Wednesday, inclusive—Fall Semester Examinations

SPRING SEMESTER 1964

FEBRUARY

- 3-7 Monday to Friday—Spring Semester Registration
- 10 Monday—Instruction Begins
- 22 Saturday—Washington's Birthday, Holiday

MARCH

- 25 Wednesday—Maryland Day
- 27 Thursday—Easter Recess Begins After Last Class
- 31 Tuesday—Easter Recess Ends 8 a.m.

MAY

- 13 Wednesday—AFROTC Day
- 28 Thursday—Pre-Examination Study Day
- 29-JUNE 5—Friday-Friday, Spring Semester Examinations
- 30 Saturday—Memorial Day, Holiday
- 31 Sunday—Baccalaureate Exercises

JUNE

- 6 Saturday—Commencement Exercises

SUMMER SESSION 1964

JUNE 1964

- 22 Monday—Summer Session Registration
- 23 Tuesday—Summer Session Begins

JULY

- 4 Saturday—Independence Day, Holiday

AUGUST

- 14 Friday—Summer Session Ends

SHORT COURSES 1964

JUNE 1964

- 15-19 Monday to Saturday—Rural Women's Short Course

AUGUST

- 3-7 Monday to Saturday—4-H Club Week.

SEPTEMBER

- 8-11 Tuesday to Friday—Firemen's Short Course

SUMMER SCHOOL REGISTRATION SCHEDULE

MONDAY, JUNE 24, 1963*

8:00 A.M.—3:00 P.M.

To expedite registration, students have been grouped on the basis of the first letter of the last name. *No student will be permitted into the Armory until the appropriate time as listed below:*

TIME	STUDENTS	TIME	STUDENTS
8:00	SF—SZ	12:00	E—GL
8:30	T—WH	12:30	GM—H
9:00	WI—Z	1:00	I—K
9:30	A—BK	1:30	L—ME
10:00	BL—CE	2:00	MF—MZ
10:30	CF—D	2:30	N—Q
		3:00	R—SE

SUMMER SCHOOL CALENDAR

June 25 Tuesday

July 4 Thursday

Aug. 16 Friday

Classes begin

Holiday (no classes)

Close of Summer Session

*Dormitories will be open for occupancy on and after 2:00 P.M., Sunday, June 23, 1963.

BOARD OF REGENTS

and

MARYLAND STATE BOARD OF AGRICULTURE

	<i>Term Expires</i>
CHARLES P. McCORMICK <i>Chairman</i> ----- McCormick and Company, 414 Light Street, Baltimore 2	1966
EDWARD F. HOLTER <i>Vice-Chairman</i> ----- Farmers Home Administration, 103 South Gay Street, Baltimore 2	1968
B. HERBERT BROWN <i>Secretary</i> ----- The Baltimore Institute, 10 West Chase Street, Baltimore 1	1967
HARRY H. NUTTLE <i>Treasurer</i> ----- Denton	1966
LOUIS L. KAPLAN <i>Assistant Secretary</i> ----- 5800 Park Heights Avenue, Baltimore 15	1964
RICHARD W. CASE ----- Smith, Somerville and Case, 1 Charles Center—17th Floor, Baltimore 1	1970
DR. WILLIAM B. LONG ----- Medical Center, Salisbury	1969
THOMAS W. PANGBORN ----- The Pangborn Corporation, Pangborn Blvd., Hagerstown	1965
THOMAS B. SYMONS ----- Suburban Trust Company, 6950 Carroll Avenue, Takoma Park	1970
WILLIAM C. WALSH ----- Liberty Trust Building, Cumberland	1968
MRS. JOHN L. WHITEHURST ----- 4101 Greenway, Baltimore 18	1967

Members of the Board are appointed by the Governor of the State for terms of seven years each, beginning the first Monday in June. Members may serve only two consecutive terms.

The President of the University of Maryland is, by law, Executive Officer of the Board.

The State law provides that the Board of Regents of the University of Maryland shall constitute the Maryland State Board of Agriculture.

OFFICERS OF ADMINISTRATION

Principal Administrative Officers

WILSON H. ELKINS, *President*

B.A., University of Texas, 1932; M.A., 1932; B.LITT., Oxford University, 1936;
D. PHIL., 1936.

ALBIN O. KUHN, *Executive Vice President*

B.S., University of Maryland, 1938; M.S., 1939; PH.D., 1948.

R. LEE HORNBAKE, *Vice President for Academic Affairs*

B.S., California State College, Pa., 1934; M.A., Ohio State University, 1936;
PH.D., 1942.

FRANK L. BENTZ, *Assistant to the President*

B.S., University of Maryland, 1942; PH.D., 1952.

ALVIN E. CORMENY, *Assistant to the President, in Charge of Endowment and Development*

B.A., Illinois College, 1933; LL.B., Cornell University, 1936.

Emeriti

HARRY C. BYRD, *President Emeritus*

B.S., University of Maryland, 1908; LL.D., Washington College, 1936; LL.D.,
Dickinson College, 1938; D.SC., Western Maryland College, 1938.

ADELE H. STAMP, *Dean of Women Emerita*

B.A., Tulane University, 1921; M.A., University of Maryland, 1924.

Administrative Officers of the Schools and Colleges

MYRON S. AISENBERG, *Dean of the School of Dentistry*

D.D.S., University of Maryland, 1922.

VERNON E. ANDERSON, *Dean of the College of Education*

B.S., University of Minnesota, 1930; M.A., 1936; PH.D., University of Colorado,
1942.

RONALD BAMFORD, *Dean of the Graduate School*

B.S., University of Connecticut, 1924; M.S., University of Vermont, 1926; PH.D.,
Columbia University, 1931.

GORDON M. CAIRNS, *Dean of Agriculture*

B.S., Cornell University, 1936; M.S., 1938; PH.D., 1940.

WILLIAM P. CUNNINGHAM, *Dean of the School of Law*

A.B., Harvard College, 1944; LL.B., Harvard Law School, 1948.

RAY W. EHRENSBERGER, *Dean of University College*

B.A., Wabash College, 1929; M.A., Butler University, 1930; PH.D., Syracuse
University, 1937.

NOEL E. FOSS, *Dean of the School of Pharmacy*

PH.C., South Dakota State College, 1929; B.S., 1929; M.S., University of Maryland, 1932; PH.D., 1933.

LESTER M. FRALEY, *Dean of the College of Physical Education, Recreation and Health*

B.A., Randolph-Macon College, 1928; M.A., 1937; PH.D., Peabody College, 1939.

FLORENCE M. GIPE, *Dean of the School of Nursing*

B.S., Catholic University of America, 1937; M.S., University of Pennsylvania, 1940; ED.D., University of Maryland, 1952.

LADISLAUS F. GRAPSKI, *Director of the University Hospital*

R.N., Mills School of Nursing, Bellevue Hospital, New York, 1938; B.S., University of Denver, 1942; M.B.A., in Hospital Administration, University of Chicago, 1943.

IRVIN C. HAUT, *Director, Agriculture Experiment Station and Head, Department of Horticulture*

B.S., University of Idaho, 1928; M.S., State College of Washington, 1930; PH.D., University of Maryland, 1933.

VERL S. LEWIS, *Dean of the School of Social Work*

A.B., Huron College, 1933; M.A., University of Chicago, 1939; D.S.W., Western Reserve University, 1954.

SELMA F. LIPPEATT, *Dean of the College of Home Economics*

B.S., Arkansas State Teachers College, 1938; M.S., University of Tennessee, 1945; PH.D., Pennsylvania State University, 1953.

CHARLES MANNING, *Acting Dean of the College of Arts and Sciences*

B.S., Tufts College, 1929; M.A., Harvard University, 1931; PH.D., University of North Carolina, 1950.

FREDERIC T. MAVIS, *Dean of the College of Engineering*

B.S., University of Illinois, 1922; M.S., 1926; C.E., 1932; PH.D., 1935.

DONALD W. O'CONNELL, *Dean of the College of Business and Public Administration*

B.A., Columbia University, 1937; M.A., 1938; PH.D., 1953.

WILLIAM S. STONE, *Dean of the School of Medicine and Director of Medical Education and Research*

B.S., University of Idaho, 1924; M.S., 1925; M.D., University of Louisville, 1929; PH.D. (HON.), University of Louisville, 1946.

General Administrative Officers

G. WATSON ALGIRE, *Director of Admissions and Registrations*

B.A., University of Maryland, 1930; M.S., 1931.

THEODORE R. AYLESWORTH, *Professor of Air Science and Head, Department of Air Science*

B.S., Mansfield State Teachers College, 1936; M.S., University of Pennsylvania, 1949.

- B. JAMES BORRESON, *Executive Dean for Student Life*
B.A., University of Minnesota, 1944.
- DAVID L. BRIGHAM, *Director of Alumni Relations*
B.A., University of Maryland, 1938.
- C. WILBUR CISSEL, *Director of Finance and Business*
B.A., University of Maryland, 1932; M.A., 1934; C.P.A., 1939.
- HELEN E. CLARKE, *Dean of Women*
B.S., University of Michigan, 1943; M.A., University of Illinois, 1951; ED.D., Teachers College, Columbia, 1960.
- WILLIAM W. COBEY, *Director of Athletics*
A.B., University of Maryland, 1930.
- L. EUGENE CRONIN, *Director of Natural Resources Institute*
A.B., Western Maryland College, 1938; M.S., University of Maryland, 1943; PH.D., 1946.
- LESTER M. DYKE, *Director of Student Health Service*
B.S., University of Iowa, 1936; M.D., 1926.
- GEARY F. EPPLEY, *Dean of Men*
B.S., Maryland State College, 1920; M.S., University of Maryland, 1926.
- HARRY D. FISHER, *Comptroller and Budget Officer*
B.S., University of Maryland, 1943; C.P.A., 1948.
- GEORGE W. FOGG, *Director of Personnel*
B.A., University of Maryland, 1926; M.A., 1928.
- ROBERT J. MCCARTNEY, *Director of University Relations*
B.A., University of Massachusetts, 1941.
- GEORGE W. MORRISON, *Associate Director and Supervising Engineer Physical Plant (Baltimore)*
B.S., University of Maryland, 1927; E.E., 1931.
- WERNER C. RHEINOLDT, *Director, Computer Science Center*
DIPL. MATH., University of Heidelberg, 1952; DR. RER. NAT., University of Freiburg, 1955.
- HOWARD ROVELSTAD, *Director of Libraries*
B.A., University of Illinois, 1936; M.A., 1937; B.S.L.S., Columbia University, 1940.
- *ORVAL L. ULRY, *Director of the Summer Session*
B.S., Ohio State University, 1938; M.A., 1944; PH.D., 1953.
- GEORGE O. WEBER, *Director and Supervising Engineer, Department of Physical Plant*
B.S., University of Maryland, 1933.

*Resigned as Director effective November 3, 1962.

Division Chairmen

JOHN E. FABER, JR., *Chairman of the Division of Biological Sciences*
B.S., University of Maryland, 1926; M.S., 1927; PH.D., 1937.

HAROLD C. HOFFSOMMER, *Chairman of the Division of Social Sciences*
B.S., Northwestern University, 1921; M.A., 1923; PH.D., Cornell University, 1929.

CHARLES E. WHITE, *Chairman of the Lower Division*
B.S., University of Maryland, 1923; M.S., 1924; PH.D., 1926.

CHAIRMEN, STANDING COMMITTEES, FACULTY SENATE

GENERAL COMMITTEE ON EDUCATIONAL POLICY

Monroe H. Martin (Arts and Sciences), *Chairman*

GENERAL COMMITTEE ON STUDENT LIFE AND WELFARE

Redfield W. Allen (Engineering), *Chairman*

COMMITTEE ON ADMISSIONS AND SCHOLASTIC STANDING

Kenneth O. Hovet (Education), *Chairman*

COMMITTEE ON INSTRUCTIONAL PROCEDURES

Charles E. Manning (Arts and Sciences), *Chairman*

COMMITTEE ON SCHEDULING AND REGISTRATION

Benjamin Massey (Physical Education), *Chairman*

COMMITTEE ON PROGRAMS, CURRICULA AND COURSES

V. R. Cardozier (Agriculture), *Chairman*

COMMITTEE ON FACULTY RESEARCH

Howard Laster (Arts and Sciences), *Chairman*

COMMITTEE ON PUBLIC FUNCTIONS AND COMMENCEMENTS

Albin O. Kuhn (Executive Vice President), *Chairman*

COMMITTEES ON LIBRARIES

Aubrey C. Land (Arts and Sciences), *Chairman*

COMMITTEE ON UNIVERSITY PUBLICATIONS

Carl Bode (Arts and Sciences), *Chairman*

COMMITTEE ON INTERCOLLEGIATE COMPETITION

John E. Foster (Agriculture), *Chairman*

COMMITTEE ON PROFESSIONAL ETHICS, ACADEMIC FREEDOM, AND TENURE

Franklin D. Cooley (Arts and Sciences), *Chairman*

COMMITTEE ON APPOINTMENTS, PROMOTIONS, AND SALARIES

Stanley Jackson (Arts and Sciences), *Chairman*

COMMITTEE ON FACULTY LIFE AND WELFARE

Arthur S. Patrick (Business and Public Administration), *Chairman*

COMMITTEE ON MEMBERSHIP AND REPRESENTATION

G. Kenneth Reiblich (Law), *Chairman*

CHAIRMEN, STANDING COMMITTEES, FACULTY SENATE

COMMITTEE ON COUNSELING OF STUDENTS

Harold F. Sylvester (Business and Public Administration), *Chairman*

COMMITTEE ON THE FUTURE OF THE UNIVERSITY

August J. Prah (Graduate School), *Chairman*

ADJUNCT COMMITTEE OF THE GENERAL COMMITTEE ON STUDENT LIFE AND WELFARE

STUDENT ACTIVITIES

Richard F. Davis (Agriculture), *Chairman*

FINANCIAL AIDS AND SELF-HELP

Mary L. Andrews (Arts and Sciences), *Chairman*

STUDENT PUBLICATIONS AND COMMUNICATIONS

George Batka (Arts and Sciences), *Chairman*

RELIGIOUS LIFE

Harold C. Hoffsommer (Arts and Sciences), *Chairman*

STUDENT HEALTH AND SAFETY

John L. Bryan (Engineering), *Chairman*

STUDENT DISCIPLINE

J. Allan Cook (Business and Public Administration), *Chairman*

BALTIMORE CAMPUS, STUDENT AFFAIRS

Vernon E. Krahl, (Medicine), *Chairman*

Summer School

1963

TO BETTER SERVE THOSE WHO DESIRE SUMMER STUDY, THE University of Maryland is offering this Summer an eight-week Summer Session, from June 24 through August 16, 1963. Within this eight-week period, a variety of offerings extending over various instructional periods ranging from two and three-week workshops to six and eight-week subject matter courses will be available. In-service school teachers will find a wide range of courses available on a six-week term basis. It is believed that the longer instructional period will ease considerably the very heavy subject matter concentration and rapid pace necessitated by a six-week session and provide then, additional time so badly needed for reading, library assignments and research efforts. The longer summer session also will provide extended educational opportunities for students at a time when the University is operating at less than peak student load.

Among the varied offerings, each student will find a combination of courses and schedules best suited to his individual needs and desires.

Recreational, Social and Cultural Activities

A Recreation and Social Activities Committee, working with a full-time Director of Recreation, has planned a varied program of activities to suit Summer Session students of all ages. University swimming pools will be open with scheduled hours each afternoon and evening. Softball, tennis and golf tournaments will interest some; others may care to participate in the summer theatre workshop or summer chorus.

Planned activities will include round and square dancing, outdoor movies, Chapel vesper services, band concerts, watermelon feasts, guided tours of Washington, and other social functions. The Summer Session Recreation Director will be available to counsel with groups planning picnics or other events.

Academic Information

TERMS OF ADMISSION

All summer school students new to the University must be officially admitted. *This applies to all non-degree as well as degree candidates.*

ACADEMIC INFORMATION

UNDERGRADUATE AND SPECIAL STUDENTS

A student seeking a bachelor's degree in any undergraduate college, who has not been previously admitted to the University, must file application with the Director of Admissions *not later than the end of the first week in June, 1963.*

A student who already has a bachelor's degree and who either does not wish graduate credit or does not meet requirements for admission to the Graduate School may be admitted to the undergraduate college consistent with his major interests, as a Special Student. He should be admitted to the University through the Director of Admissions *no later than the end of the first week in June, 1963.* Credit so obtained through the College of Education is ordinarily accepted for renewal of teaching certificate. A Special Student may take upper division (100, but not 200 or 300 level) courses.

GRADUATE STUDENTS

Application for admission to the Graduate School, and all supporting academic records, must be in the office of the Dean of the Graduate School by June 1, 1963.

Transfer Credit: To another institution. The student who wishes to transfer credit to another institution should submit an application on which he writes "For Transfer Only." Along with the application he should submit a letter from the graduate dean of the institution in which he is enrolled as a degree student, to the Dean of the Graduate School, University of Maryland, requesting permission to take a limited amount of work.

Transfer Credit: To the University of Maryland. Credit not to exceed six semester hours for course work at other recognized institutions may be applied towards the master's degree only when such course work has been taken after the student has been admitted to the University of Maryland Graduate School. Before taking course work for transfer the student must have the approval of his adviser, the head of his major department and the Dean of the Graduate School. Normally, approval may be given only for courses which are not offered by the University of Maryland during the period of the student's attendance. The request for transfer of credit shall be submitted to the Graduate Council for approval when the student applies for admission to candidacy. The candidate is subject to final examination by this institution in all work offered for the degree.

Special Non-Degree Credit. The student who already has a master's degree and does not wish to pursue a doctoral program may submit an application marked "Non-Degree" and along with it, official transcript of all previous undergraduate and graduate study. If the student later desires to embark on a doctoral program, the credit earned in Special Non-Degree status may, at the discretion of the major adviser, be used in a doctoral program.

Degree Credit. The student who wishes to pursue either a master's or doctoral program must submit, along with his application, official transcripts of all work taken in institutions of higher education. The applicant is subject to admission requirements of the Graduate School and of the department in which he hopes to pursue his graduate work.

ACADEMIC CREDIT

The semester hour is the unit of credit. During the Summer Session a course meeting five times a week for six weeks or four times a week for eight weeks each requiring the normal amount of outside work is given a weight of three semester hours. Each class period is 80 minutes in length.

Students who are matriculated as candidates for degrees will be given credit toward the appropriate degree for satisfactory completion of courses. All courses offered in the Summer School are creditable toward the appropriate degree provided they are included in the student's program as planned with his adviser.

All students will receive an official grade report specifying the amount and quality of work completed.

MARKING SYSTEM

The following symbols are used for marks: A, B, C, and D—passing; F—Failure; I—Incomplete. Mark "A" denotes superior scholarship; mark "B," good scholarship; mark "C," fair scholarship; and "D," passing scholarship. The mark of "I" (incomplete) is exceptional. Complete regulations governing marks are printed in *University General and Academic Regulations*.

MAXIMUM LOAD

Undergraduates:

Undergraduate students may earn credit at the discretion of their respective advisers in accordance with the following guide lines:

Students enrolled only in courses of 8-week duration may earn from 8-10 credits.

Students enrolled only in courses of 6-week duration may earn from 6-8 credits.

Students enrolled in combinations of 6 and 8-week courses may earn 7-9 credits.

Graduate:

Students enrolled only in courses of 8-week duration may earn a maximum of 8 credits.

Students enrolled only in courses of 6-week duration may earn a maximum of 6 credits.

Students enrolled in combinations of 6 and 8-week courses may earn a maximum of 7 credits.

SUMMER GRADUATE WORK

Masters' degrees are offered through the Graduate School as follows:

Master of Arts

Master of Science

Master of Arts in American Civilization

Master of Education

Master of Business Administration

Master of Music

ACADEMIC INFORMATION

Doctors' degrees offered through the Graduate School are as follows:

Doctor of Philosophy

Doctor of Education

Graduate work in the Summer School may be counted as residence toward a master's degree or Doctor of Education degree. A full year of residence or the equivalent is the minimum requirement for each degree.

The requirements for each of the degrees above may be procured from the Graduate School upon request.

Special regulations governing graduate work in education and supplementing the statements contained in the Graduate School Announcements are available in duplicated form and may be obtained from the College of Education. Each graduate student in education should have a copy. Students seeking the master's degree as a qualification for a certificate issued by the Maryland State Department of Education or any other certifying authority should consult the appropriate bulletin for specific requirements. Advisers will assist students in planning to meet such requirements.

All students desiring graduate credit, whether for meeting degree requirements, for transfer to another institution, or for any other purpose, must be regularly matriculated and registered in the Graduate School.

CANDIDATES FOR DEGREES

All students who expect to complete requirements for degrees during the Summer Session should make applications for diplomas at the office of the Registrar during the first two weeks of the Summer Session.

THE PROGRAM IN AMERICAN CIVILIZATION

The University considers that it is important for every student to achieve an appreciative understanding of this country, its history and its culture. It has therefore established a comprehensive program in American civilization. This program is also designed to provide the student with a general educational background.

Work in American civilization is offered at three distinct academic levels. The first level is required of all freshmen and sophomores at the University and is described below. The second level is for undergraduate students wishing to carry a major in this field (see catalog for the College of Arts and Sciences). The third level is for students desiring to do graduate work in this field (see catalog for the Graduate School).

All students receiving a baccalaureate degree from the University of Maryland must (except as specific exceptions are noted in printed curricula) obtain 24 semester hours of credit in the lower division courses of the American Civilization Program. Although the courses in the Program are prescribed generally, some choice is permitted, especially for students who demonstrate in classification tests good previous preparation in one or more of the required subjects.

The 24 semester hours in American civilization are as follows:

1. English (12 hours, Eng. 1, 2 and 3, 4 or 5, 6), American history (6 hours, H. 5, 6), and American government (3 hours, G. & P. 1) are required subjects; however, students who qualify in one, two or all three of these areas by means of University administered tests will substitute certain elective courses. Through such testing a student may be released from 3 hours of English (9 hours would remain an absolute requirement), 3 hours of American history (3 hours remaining as an absolute requirement), and 3 hours of American government. Students released from 3 hours of English will take Eng. 21 instead of Eng. 1 and 2. Those released from 3 hours in history will take H. 56 instead of H. 5 and 6. Students who have been exempted from courses in English, American history, or American government may not take such courses for credit.

2. For the 3 additional hours of the 24 hours required the student elects one course from the following group (Elective Group I):

Econ. 37, Fundamentals of Economics (Not open to freshmen; students who may wish to take additional courses in economics should substitute Econ. 31 for Econ. 37)

Phil. 1, Philosophy for Modern Man

Psych. 1, Introduction to Psychology

Soc. 1, Sociology of American Life

3. Students who, on the basis of tests, have been released from 3, 6 or 9 hours in otherwise required courses in English, American history or American government (see 1 above), shall select the replacements for these courses from any or all of the following groups: (a) more advanced courses in the same department as the required courses in which the student is excused, or (b) Elective Group I (see 2 above) provided that the same course may not be used as both a Group I and a Group II choice, or (c) Elective Group II. Group II consists of the following 3-hour courses:

H. 42, Western Civilization; either H. 51 or 52, The Humanities; either Music 20, Survey of Music Literature or Art 22, History of American Art; and Soc. 5, Anthropology.

General Information

REGISTRATION

All new students must obtain admission to the University from the Director of Admissions or the Dean of the Graduate School *before* registration. Every student planning to register for a course or courses must have been admitted to the University regardless of his status as a degree or non-degree student. Refer to page 2 for greater detail.

GENERAL INFORMATION

Registration for undergraduate and graduate students will take place on Monday, June 24, from 8:00 a.m. to 3:00 p.m., in accordance with the Registration Schedule printed on page vii of this catalog. *No student will be permitted into the Armory before the time listed in the Registration Schedule.*

Students may register in "late registration" at the Registrar's Office on June 25. After June 25, exceptional cases may be registered only after approval of the appropriate dean. The late registration fee, charged on and after June 25, is \$10.00.

REGISTRATION FOR ALL COLLEGES EXCEPT COLLEGE OF EDUCATION

Students in all colleges except the College of Education, will begin registration on June 24 by securing registration cards from the respective College offices. Registration cards must be approved (signed) by both the student's adviser and Dean. Graduate students secure the approval of the Dean of the Graduate School. After approval, registrations are completed at the Armory, where students secure section assignments for all courses for which more than one section is being offered, receive bills, pay fees, and submit all forms to the Registrar's representatives. **UNTIL ALL COMPLETED FORMS ARE SUBMITTED TO THE REGISTRAR'S REPRESENTATIVES, REGISTRATION IS NEITHER COMPLETE NOR OFFICIAL.**

REGISTRATION: COLLEGE OF EDUCATION ONLY

All Education advisers will be located in the south basement wing of the Armory. Students will be admitted only through the south-west door of the Armory and *only according to the alphabetical schedule* posted on page vii of this catalog. Students then proceed to the room in which their respective advisors are located (nearby rooms in the Armory basement).

Early Registration: Students must request special permission in writing from the Dean of the College of Education before Monday, June 24, 1963 giving the reason for the request. Upon approval, a form will be issued to the student allowing him entrance to the Armory out of alphabetical order.

No special permission will be given for reasons of unawareness about the schedule or because a student is riding with someone who registers earlier. In the latter case, all students riding together should plan to register at the latest hours scheduled for anyone in the group.

Registration cards must be approved (signed) by both the student's adviser and the Dean of the College of Education. Graduate students must in addition receive the approval of the Dean of the Graduate School. Graduate students carrying the official graduate school matriculation card may obtain the graduate dean's approval (signature) in the Armory. Graduate students not carrying the official graduate school matriculation card must report to the Graduate School office, Rooms Q 112-115 Business and Public Administration building, before proceeding to the upper floor of the Armory to complete registration. After approval, registrations are completed on the first floor of the Armory, where

students secure section assignments for all courses for which more than one section is being offered, receive bills, pay fees, and submit all forms to the Registrar's representatives. UNTIL ALL COMPLETED FORMS ARE SUBMITTED TO THE REGISTRAR'S REPRESENTATIVES, REGISTRATION IS NEITHER COMPLETE NOR OFFICIAL.

LENGTH OF CLASS PERIOD

Classes during the 1963 summer session will meet on the following time schedule:

8:00 — 9:20
 9:30 — 10:50
 11:00 — 12:20
 12:30 — 1:50

Weekly Class Schedule

6-week classes

- 2-credit courses meet 4 days as indicated in the catalog.
- 3-credit courses meet daily
- 4-credit courses meet daily and include multiple periods for laboratory.

8-week classes

- 2-credit courses meet M.W.F.
- 3-credit courses meet M.T.Th.F.
- 4-credit courses meet daily, plus laboratory time.
- 5-credit courses meet daily, plus 2 additional periods to be arranged each week.

DEFINITION OF RESIDENCE AND NON-RESIDENCE

Students who are minors are considered to be resident students if at the time of their registration their parents have been domiciled in the State of Maryland for at least six months.

The status of the residence of a student is determined at the time of his first registration in the University and may not thereafter be changed by him unless, in the case of a minor, his parents move to and become legal residents of Maryland by maintaining such residence for at least six months. However, the right of the minor student to change from a non-resident status to resident status must be established by him prior to the registration period set for any semester.

Adult students are considered to be residents if at the time of their registration they have been domiciled in Maryland for at least six months provided such residence has not been acquired while attending any school or college in Maryland or elsewhere. Time spent on active duty in the armed services while stationed in Maryland will not be considered as satisfying the six-months period referred to above except in those cases in which the adult was domiciled in Maryland for at least six months prior to his entrance into the armed service and was not enrolled in any school during that period.

GENERAL INFORMATION

The word "domicile" as used in this regulation shall mean the permanent place of abode. For the purpose of this rule only one domicile may be maintained.

TUITION AND FEES

UNDERGRADUATE STUDENTS

General tuition fee, per credit hour -----	\$15.00
Nonresidence fee -----	15.00
Must be paid by all students who are not residents of Maryland.	
*Application fee (see explanation below) -----	10.00
Matriculation fee -----	10.00
Payable only once, upon admission to the University. Every student must be matriculated.	
Infirmary fee -----	1.00
Recreation fee -----	1.00

GRADUATE STUDENTS

General tuition fee, per credit hour -----	\$15.00
Matriculation fee -----	10.00
Payable only once, upon admission to the Graduate School.	
Recreation fee -----	1.00
Required of all students registered in the Summer School.	
Infirmary fee (voluntary) -----	1.00
The Infirmary services are available to graduate students who elect to pay at the time of registration the fee of \$1.00 for the Summer Session.	
Testing fee (new graduate students in Education only) -----	5.00
There is no non-residence fee for graduate students.	

MISCELLANEOUS INFORMATION

Auditors pay the same fees as regular students.

The graduation fee is \$10.00 for bachelors' and masters' degrees, and \$50.00 for doctors' degrees.

A fee of \$5.00 is charged for each change in program after June 28. If such change involves entrance to a course, it must be approved by the instructor in charge of the course entered. Courses cannot be dropped after July 12. All changes must be approved by the appropriate dean and filed in the Office of the Registrar.

*The application fee for the undergraduate summer session applicant partially defrays the cost of processing applications for admission to this division of the University. If a new applicant enrolls for the term for which he applied, the fee is accepted in lieu of the matriculation fee. Applicants who have been previously enrolled with the University of Maryland at College Park or Baltimore, or at one of its off-campus centers are not required to pay the application fee since they have already paid the matriculation fee.

A special laboratory fee may be charged for certain courses where such fee is noted in the course description.

Laboratory courses in chemistry carry laboratory fees of \$12.00 and \$20.00; in addition the student is charged for any apparatus which cannot be returned to the stock room in perfect condition. Other laboratory fees are stated in connection with individual courses.

Physical education fee charged each student registered for any physical activity course, \$6.00.

Late registration fee, \$10.00.

WITHDRAWAL AND REFUND OF FEES

Any student compelled to leave the University at any time during the Summer Session must secure the application for withdrawal form from the office of his dean and file it in the Office of the Registrar, bearing the proper signatures. If this is not done, the student will not be entitled, as a matter of course, to a certificate of honorable dismissal, and will forfeit his right to any refunds to which he would otherwise be entitled. The date used in computing refunds is the date the application for withdrawal is filed in the Office of the Registrar.

In the case of a minor, official withdrawal will be permitted only with the written consent of the student's parent or guardian.

With the exception of board charges, students withdrawing from the University will receive a refund of all charges, less the matriculation fee in accordance with the following schedule:

<i>Period From Date Instruction Begins</i>	<i>Percentage Refundable</i>
One week or less -----	70%
Between one and two weeks -----	50%
Between two and three weeks -----	20%
After three weeks -----	0

No refunds of fixed charges, lodging, tuition, laboratory fees, etc., are allowed when courses are dropped, unless the student withdraws from the University.

LIVING ACCOMMODATIONS AND MEALS

Housing accommodations are available at the following cost, on the basis indicated:

<i>Regular Residence Halls</i>	<i>Double Occupancy</i>	<i>Single Occupancy</i>
Weekly rate -----	\$ 9.00	\$ 13.00
Six weeks session -----	54.00	78.00
Eight weeks session -----	72.00	104.00

GENERAL INFORMATION

Since most of the rooms in the residence halls are double rooms, there is no guarantee that a request for a single room can be granted. No room deposit is required for the Summer Sessions; however, the full applicable room charge is payable at registration. No refunds of room charges will be made after the third week of the Summer Sessions. All students are held responsible for compliance with University regulations. The University reserves the right to inspect residence hall rooms when deemed necessary by the staff.

The typical student room is furnished with a bed, a chest of drawers, a desk and chair. Students should supply themselves with other items essential for their needs, such as a study lamp, wastebasket, and ashtrays. All students must provide themselves with linens and a pillow, either from home or from the commercial linen service which operates on the University campus. This company rents, for \$1.00 per week, two sheets, a pillow case and towels, and will also have available blankets and pillows for a nominal fee.

THE UNIVERSITY RESIDENCE HALLS WILL OPEN FOR OCCUPANCY AT 2:00 P.M. SUNDAY, JUNE 23, AND WILL CLOSE AT NOON ON SATURDAY, AUGUST 17.

Early application for a reservation is advisable, as only those who have made reservations can be assured that rooms are available for occupancy upon their arrival. Rooms will not be held later than noon on Tuesday, June 25. For reservations write to: University Housing Office, North Administration Building.

Campus housing is not available for faculty members during the summer session.

Listings of off-campus rooms, apartments and houses are available in the University Housing Office, North Administration Building. Students occupying off-campus housing will maintain the same standards as required of those in the University residence halls and fraternity houses.

Board is available to all students under the following options:

- (a) Cafeteria style with cash payment for each individual meal.
- (b) On a contract basis at the following rates payable at time of registration:
 - \$72.00 for the six weeks session.
 - \$96.00 for the eight weeks session.

No refunds will be made on board to those students who elect the contract basis except in the case of withdrawal from the University, in which event refund will be made on a pro-rata weekly basis.

STUDENT HEALTH

The University Infirmary, located on the campus near the Dining Hall (main) provides medical service for the undergraduate students in the Summer Session, and also for those graduate students who elect to pay the \$1.00 Health Service fee. Students who are ill should report promptly to the University Infirmary, in person. Serious emergencies may be reported by phone to Ext.

326. Doctor's Office hours are: Week days, 9:00 a.m. to 11:00 a.m.; week ends, 10:00 a.m. to 11:00 a.m. A nurse is on duty 24 hours per day.

PARKING OF AUTOMOBILES

For use of students, staff members, and employees, several parking lots are provided. Students may park in lots 1, 2, 3, 4, 6 and 7. All other lots are reserved for faculty and staff members. The University rules forbid the parking of cars on any of the campus roads. These rules are enforced by campus police.

LIBRARY FACILITIES

The new \$2.5 million library building located in a prominent position at the west end of the main quadrangle was opened for service in January, 1958. The almost 200,000 square feet of floor space allow for greatly improved library service and accommodations for study. Two large reading rooms are air-conditioned for student convenience.

The building will ultimately house 1,000,000 volumes; it seats 2,000 readers. The 200 carrels and individual studies provide excellent facilities for graduate students and faculty.

Library facilities outside the main building include the Engineering and Physical Sciences Library located in the Mathematics Building and the Chemistry Library.

The University System of Libraries has in its collection 550,000 volumes in addition to thousands of government publications and uncatalogued materials. Over 5,000 periodicals and 200 newspapers are received. The libraries are able to supplement their services to graduate students and faculty by borrowing material from other libraries through interlibrary loan.

UNIVERSITY BOOKSTORE

For the convenience of students, the University maintains a students' Supply Store, located in the Student Union Building, where students may obtain at reasonable prices textbooks, stationery, classroom materials and equipment.

Textbooks, reference books and paperbacks on the lower level.

Classroom material and equipment on the main level.

The Bookstore operates on a cash basis.

Nursery School

The Early Childhood Education department operates a Nursery School for four year olds as a center for student teaching, and as a laboratory in child development for its own majors and for students in related departments.

CONFERENCES, INSTITUTES, WORKSHOPS

FOR ADDITIONAL INFORMATION

Detailed information concerning the American Civilization Program, fees and expenses, scholarships and awards, student life, and other material of a general nature, may be found in the University publication titled *An Adventure in Learning*. This publication may be obtained on request from the Catalog Mailing Room, North Administration Building, University of Maryland at College Park. A detailed explanation of the regulation of student and academic life, may be found in the University publication titled, *University General and Academic Regulation*. This is mailed in September and February of each year to all new undergraduate students.

Requests for course catalogs for the individual schools and colleges should be directed to the deans of these respective units, addressed to:

COLLEGES LOCATED AT COLLEGE PARK:

Dean
(College in which you are interested)
The University of Maryland
College Park, Maryland

PROFESSIONAL SCHOOLS LOCATED AT BALTIMORE:

Dean
(School in which you are interested)
The University of Maryland
Lombard and Greene Streets
Baltimore 1, Maryland

Conferences, Institutes, Workshops, Special Courses and Lectures

University-Wide Lecture Series

The 1963 Summer School will sponsor a series of lectures during the 8-week period from June 24-August 16. These lectures are planned by a University-wide committee with the hope of selecting current informative topics and obtaining outstanding lecturers who will be of interest to all summer school students regardless of college or department.

All summer school students and faculty members as well as other interested persons are cordially invited to attend. No admission charge will be made. For further information please contact the Summer School office on the College Park Campus.

Television Workshop

Each summer the Department of Speech offers a television workshop (Speech 149—3 hours, see listing under Speech and Dramatic Art) which is primarily designed for the classroom teacher.

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The workshop provides an opportunity to (1) learn the fundamental principles of instructional television (2) to develop presentational techniques (3) to further professional skills and competence.

The air-conditioned studios are located in Woods Hall, and the latest in professional broadcast-type equipment is utilized.

Enrollment is limited. Inquiries may be sent to Professor George F. Batka, Director, Radio and Television, Department of Speech, University of Maryland, College Park, Maryland.

Typewriting Demonstration For Business Education Teachers

The College of Education offers the business teacher registered during the Summer Session an opportunity to observe pupils at work in a typewriting class. These observations will aid the classroom teacher in: (1) designing purposeful classroom activities involving development of the basic typewriting skills, (2) planning with the pupil the organization of an effective set of "work" habits, (3) analyzing through case studies the methods of dealing with the various aspects of individual pupil progress, (4) applying the principles of the psychology of skills to the teaching of typewriting, and (5) developing improved methods for course construction, selection of instructional materials, and measuring pupil achievement.

Workshops in Music

Through the cooperation of the Department of Music, the College of Education, and University College, two workshops in music will be offered during the 1963 Summer Session, directed by nationally known leaders in their respective fields. Participants registered in one of the courses listed below will meet in the afternoon for a minimum of 30 class hours during a two-week period, and may receive two semester hours of credit. The workshops are so designed that registration for four additional hours in other courses during the regular six-week session is possible.

The regular procedures for admission to the University, listed elsewhere in this catalog, apply also for admission to the Workshops. The courses may be counted for graduate credit only if prior admission to the Graduate School has been obtained; note the deadline of June 1 for admission to that school. Rooms may be reserved in the campus dormitories for the period of the workshops, and meals will be available in the University at nominal cost.

Workshop in Choral Music

The Choral Workshop, directed by Morris Beachy, is offered during the period July 1 to July 12. Participants will register for Mus. Ed. 175, Methods and Materials in Vocal Music for the High School. In the first week, July 1-5, a series of lectures, conferences, and discussions of choral problems and readings of new choral music will be held. In the second week, July 8-12, a mixed chorus of selected high-school students will rehearse and present a

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public concert. Adult participants will assist in the rehearsals and take part in other professional activities.

Workshop in Band Music

The Band Workshop, directed by Clarence Sawhill, is offered during the period July 1 to July 12. Participants will register for Mus. Ed. 180, Instrumental Music for the High School. The workshop will consist of lectures and demonstrations of all phases of instrumental conducting, including baton techniques, score preparation, rehearsal techniques, style, and interpretation. Daily laboratory sessions will be held in connection with rehearsals of a concert band, composed of selected high school students. The band, which will be in residence for one-week period, will present a public concert on July 12.

Copies of a brochure containing detailed information about the workshops in music may be obtained by addressing the Department of Music. The fees applicable to these workshops, including registration, dormitory room, and supplementary fee of \$5.00, can be calculated by referring to pages 8 and 9 of this catalog.

Workshop on Teaching Conservation of Natural Resources

The College of Agriculture and the Conservation Education Division of the Natural Resources Institute cooperate in offering this workshop which is devoted to the study of the State's basic wealth, its natural resources. Basic source information will be available, specimens will be collected, pictures will be taken in different resource regions, teaching aids will be evaluated, and effective methods of teaching conservation and natural resources will be studied. The workshop will carry six semester hours of graduate credit.

State and federal workers in conservation of natural resources will be used extensively as consultants in their specialties. Field trips will be taken to all the natural regions of the State. Students will be able to observe first hand the resources problems and current practices. Adequate opportunity will be provided for students to analyze problems as a group and develop logical solutions.

The workshop will be held on the College Park campus of the University of Maryland June 24 to August 2, 1963. Registration will be limited to 30 persons.

Workshop on Human Relations in Educational Administration

This workshop is concerned with the development of leadership teams capable of providing in-service programs in human relations in local school systems. In addition to basic theory, the workshop will center on the practice and acquisition of specific human relations skills.

Preference in enrollment will be given to teams representing Maryland school systems which have participated in the Workshop in the past, and to teams of four to six persons designated by other Maryland school systems

and including in their membership: (1) a school superintendent, an assistant superintendent or someone else with equivalent rank; (2) a full-time supervising secondary school principal; (3) a full-time supervising elementary school principal, and (4) full-time supervisor, counselor, psychologist, or other professional person who spends full-time in a service position in the school system. Prerequisite for all participants: a master's degree.

Enrollment in the workshop will be limited. Applications for team participation from local school systems will be processed in the order received. If more than one application is received at the same time, the Director of the Workshop will make the final decision.

The workshop will meet daily from 9:00 a.m. to 3:00 p.m., June 24 through August 2. A student may earn six semester hours of graduate credit.

Education in Family Finance Workshop

During the Summer Session of 1963 the College of Education, the College of Business and Public Administration, and the College of Home Economics are cooperating with the National Committee for Education in Family Finance to offer a laboratory course designed to help educators improve their classroom instruction in personal and family money management.

Objectives: The workshop will center about such areas as: budgeting and financial planning, saving, investment, banks and banking, insurance, home ownership, taxation, wills and estates, social security and pension plans, and credit. To explore ways in which educators can help prepare young people to deal with financial problems in these areas, the participants will have an opportunity to develop (1) broad understandings of important concepts and facts relating to family financial security, (2) leadership skills needed to improve and expand programs of education in family finance, and (3) materials which may be used in solving their own curricular and instructional problems.

Participation: School systems are encouraged to send teams of participants numbering up to three. Persons in the following positions are especially invited to apply for acceptance: junior high, senior high, and college teachers in social studies, core, mathematics, homemaking, business education, basic business, and family life education; supervisors; guidance counselors; principals; curriculum directors; superintendents of schools; representatives of state departments of education; and staff members of teacher education institutions.

Staff: In addition to full-time staff members, a wealth of resource people from the University, from business, and from governmental agencies will be utilized as they apply to the projects undertaken.

Schedule: The four-week workshop will extend from July 8 to August 2, 1963. Sessions will be scheduled for a minimum of six hours per day, Monday through Friday.

Credit: Four hours of credit will be earned in the workshop. Participants will register through course Ed. 189-1 Workshops, Clinics, and Institutes: Education in Family Finance. The credit may be applicable to advanced degree

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requirements. If graduate credit is desired, application for admission to the Graduate School must be made before June 1, along with supporting credentials.

Scholarships: Scholarships covering tuition will be granted. Interested persons should make application on a special form which will be available upon request. Each applicant must be recommended by his superintendent or principal. Early application is encouraged so as to be assured a place in the workshop.

All correspondence concerning application or information concerning the workshop should be addressed to: Dr. Charles Anderson, College of Education, University of Maryland, College Park, Maryland.

Educator's Workshop on Automatic Data Processing (Punched Card and Electronic Computers)

This workshop is designed to introduce high school teachers and other school personnel to modern punched card and electronic computer systems. Developing a more effective general and business education program in the secondary schools will be a vital part of the workshop program.

The workshop is open to all teachers interested in automatic data processing as an important aspect of the high school education program. This workshop should be of particular interest to those persons teaching and supervising courses in business and mathematics. *No formal mathematics is required as a prerequisite to this workshop.*

Leaders in the fields of automatic data processing and education, as well as representatives from manufacturers, will be used extensively as instructors and consultants. Workshop lectures, demonstrations, field trips, laboratory work, and group and individual conferences will be scheduled throughout the two-week period.

Specifically, the participants will have opportunities to study:

1. The principles of IBM punch card data processing (IBM card, card punch, sorter, tabulator, reproducer, and accounting machines will be included).
2. The practical use of automatic data processing techniques in such areas as maintaining personnel records, financial accounting; and handling payroll, billing, sales inventory, and other types of records required in an organization.
3. The basic principles and concepts of programming computers.
4. The impact of the punched card and computer systems upon the design and construction of courses of study in the high school including the place for such courses in the high school curriculum, the types of students who should enroll in such courses, and the qualifications of teachers conducting such courses.

This two-week workshop will meet 9:00-3:00, June 24 to July 5 in the new air-conditioned Business and Public Administration Building. This workshop is listed under "Course Offerings" as Ed. 189-53. Two hours of credit may be

earned in the workshop. If graduate credit is desired, application for admission to the Graduate School must be made before June 1. Persons not desiring credit may register to audit the course. All applicants must apply for matriculation in the University either through the Graduate School or the College of Education before they can be permitted to register in the workshop. The fee for the workshop is \$30.00. Matriculation, and other fees for correct admission and enrollment are the same as for other summer school registrants. Early application is encouraged so as to be assured a place in the workshop for the enrollment is limited.

Interested persons should make application on a special form which will be available upon request. All correspondence concerning application or information concerning the workshop should be addressed to: Dr. Arthur S. Patrick, College of Education, University of Maryland, College Park, Maryland.

Summer Institute in Counseling and Guidance Training

The National Defense Education Act provides for summer Institutes in Counseling and Guidance Training. The Institute this summer is an advanced counseling practicum, with a didactic correlate. Enrollees will counsel intellectually able high school students under the supervision of counseling psychologists, and the didactic content will be on such topics as able students, testing, and the psychology of life choices. Institute activities are for the full day.

Enrollees will be secondary school counselors from the public and private non-profit secondary schools of Maryland and other states. Tuition and other fees are exempted. Enrollees from public schools will receive a \$75 weekly stipend with a \$15 allotment for each dependent. Enrollment of Maryland public school counselors will be through the superintendents' offices of the local systems. Secondary school counselors in Maryland private, non-profit schools, and in non-Maryland schools should apply to Dr. R. H. Byrne, College of Education, if interested in more information.

Workshop on Use of Community Resources

The Workshop on Use of Community Resources will be offered for persons who teach in kindergarten or in grades one to twelve, inclusive, for three weeks, June 24 to July 12. It is designed to help teachers learn to utilize community resources to strengthen a sound program of teaching and learning. The workshop is being offered at the request of the Washington Area School Study Council, a voluntary association of school systems and administrators in the Washington area. The Smithsonian Institution, which has cooperated with the Council over a period of years in a project designed to make its resources more meaningful to teachers and children, will receive special attention as an excellent example of a valuable community resource. The workshop will require full-time work of all participants. Meetings will be held from 9:30 a.m. to 3:30 p.m. throughout the workshop period. In addition to teachers designated by the Council schools, a limited number of other persons will be allowed to register. A student may earn three semester hours of undergraduate or graduate credit.

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Further information may be secured by writing to: Director of the Summer Session, University of Maryland, College Park, Maryland.

Workshop in Human Development

The Institute for Child Study, College of Education, offers a six-week human development workshop each summer providing opportunities for (1) study and synthesis of scientific knowledge about human behavior; (2) experience in the analysis of case records; (3) preparation of study group leaders for in-service child and youth study programs; (4) planning in-service child and youth study programs for teachers or other human relations workers; (5) planning preservice teacher education courses and laboratory experiences for prospective teachers; (6) examination of implications of scientific knowledge about human development and behavior for school organization, curriculum development, guidance services, club leadership, and other programs and procedures designed to foster the mental health and optimal development of children, youth and adults.

The workshop is designed for teachers and administrators who have been actively engaged in the Child and Youth Study Program sponsored by the Institute, for persons who are interested in participating in such a program, and for persons in other fields where human relations are a vital factor.

This workshop will run from June 24 to August 2. Workshop lectures, laboratory groups and seminars will be scheduled between 8:00 a.m. and 12:00 p.m. Special lectures, interest groups and conferences are scheduled from 1:30 to 3:00 p.m.

Additional details are available in the descriptions of H.D.Ed. 112-117 and H.D.Ed. 212-217 listed under "Course Offerings." Inquiries should be addressed to Director of Summer Workshops, Institute for Child Study, University of Maryland, College Park, Maryland.

Child Study Leaders Workshop

For leaders and prospective leaders of child and youth study groups who cannot attend the full six weeks workshop, a two-week workshop will be held on the University campus from June 24 to July 6. Each day's activities will include a *lecture-discussion period* centering around major scientific concepts explaining growth, development, and behavior; *laboratory periods* for analyzing case record material at the first, second, or third year level of the program (participants will choose the year level of the group they expect to lead); *reading and special interest periods*. Two hours credit can be earned for *full time* participation in one of these workshops.

Administrators' Conference on Implications

For superintendents, supervisors and principals who are interested in exploring the implications of human development principles for school operation, a workshop (2 credit hours) will be held at the University from July 8 to July 19. This work conference will examine recent scientific research findings

and theory regarding human growth, learning and behavior and will consider the implications of this knowledge for educational practice, including such problems as grouping for effective learning, marking, curriculum control, teaching processes, home-school interaction, the development and use of cumulative records, and mental health problems.

Workshop on Applications of Human Development Principles in Classrooms

For people who have had three or more years of child study experience either in workshops or in groups during the school year, a workshop (2 credit hours) will be held at the University from July 8 to July 19. Classroom practices will be examined in the light of human development principles, and procedures will be studied for possible beyond-third-year action research projects during the school year.

Workshop: Action Research in Human Development Education

A workshop for teachers and other school personnel who are interested in learning more about action research or in initiating action research projects in their own schools. This workshop will be held at the University, July 8-19 (2 credit hours). The role of action research in the solution of educational problems will be emphasized. Participants will have the opportunity to learn about and to develop designs and instruments for carrying out action research in their own schools and classrooms. Preference in enrollment will be given to persons coming as teams for the purpose of developing an action research design for implementation in their own school or school system.

Workshops on Human Development and Religious Education

Workshops in human development (each for 2 credit hours) for persons in the field of religious education will be held on the University campus from July 22 to August 2. A workshop for persons without prior workshop experience will examine scientific knowledge about human development, learning, behavior and adjustment and will consider the implications of this knowledge for religious educational practice in vacation, weekday, and Sunday schools operated by church groups.

Advanced workshops for persons who have had a previous workshop in Human Development and Religious Education will provide advanced experiences with concepts and analyses.

These workshops will be entirely non-denominational and any person responsibly concerned with religious education can appropriately enroll regardless of the nature of his faith.

CONFERENCES, INSTITUTES, WORKSHOPS

The daily schedules will be similar to those of the six weeks workshop. *Only full time participants can be accepted.* These two-week workshops may be taken for either graduate or undergraduate credit.

Workshops for Parent Child Study Leaders and Coordinators of Parent Child Study Programs

Workshops, running concurrently from July 22 to August 2, will be held for leaders or prospective leaders of parent child study groups and for coordinators of parent child study programs. Problems of leading parent study groups, of surveying current status of parent study groups, of considering procedures, materials and concepts for parent study groups, and of organizing and coordinating parent study programs will be considered.

Students desiring graduate credit and not previously enrolled in the Graduate School must have their applications for admission and transcripts in the office of the Graduate School not later than June 1, 1963.

Those interested should contact, as soon as possible, Director of Summer Workshops, Institute for Child Study, University of Maryland, College Park, Maryland.

WORKSHOPS IN SPECIAL EDUCATION

Administration and Supervision of Special Education Programs*

This workshop will consider the areas of primary concern to administrators and supervisors in determining Special Education needs, and in establishing and carrying out educational program modifications. The workshop will utilize a number of resource consultants with experience at various levels and the various facets of the overall problem.

This workshop will meet daily from 9:00-3:00, for two weeks, July 22 to August 2. Two units of undergraduate or graduate credit may be earned.

The Education of Children with Learning Impairments

This workshop will consider the theoretical background and the methods, curricula and materials employed in the approach to the various learning problems of children.

Opportunities for observation, participation and consultation in program planning, curriculum organization, and the use of methods and materials will be provided according to the primary learning problems involved: Mentally

*Students planning to attend the Workshop should request the Special Education Summer Session Brochure for program details.

Handicapped (Educable), Mentally Deficient (Trainable), Pre-School Mentally Retarded, Perceptual Learning Problems and Disturbances in Emotional Development. Selected consultants will be utilized.

This workshop will meet *off campus* daily from 9:00-3:00, June 24 to July 19. Four units of undergraduate or graduate credit may be earned.

The Education of Children with High Intellectual Ability

The workshop will be concerned with characteristics, identification, program planning and implementation for able learners at both the elementary and secondary level.

This workshop is being presented in cooperation with the Montgomery County Public Schools' workshop on Critical and Creative Thinking. Participants will have an opportunity to observe and participate in demonstration classrooms. Selected consultants will be utilized.

The workshop will meet *off-campus* daily 9-3, June 24-July 19, 1963.

Workshop for Aids, Assistants and Volunteers in Programs for Exceptional Children*

This workshop is intended to orient aids, assistants and volunteer workers in programs and facilities for children with various handicapping conditions.

The general nature of conditions will be covered with particular specific emphasis upon guidelines and practices relative to duties and responsibilities of ancillary personnel.

The workshop will meet daily 9-12 for two weeks—August 5-16 and is offered on a non-credit basis.

Workshop in Educational Data Processing for Administrators

This workshop is designed to acquaint educational administrators and related personnel with the uses to which electronic data processing can be applied in education systems.

The workshop will meet daily 9-3 on the College Park Campus, July 29-August 9. Two (2) units of undergraduate or graduate credit may be earned.

Those interested in obtaining further information on this workshop should contact Dr. Jean R. Hebler, Education Annex Building, Campus.

Workshop for Teachers of Secondary School English

The College of Education in cooperation with the English Department, the Department of Journalism, the Maryland State Department of Education, and the

*Students planning to attend the Workshop should request the Special Education Summer Session Brochure for program details.

CONFERENCES, INSTITUTES, WORKSHOPS

National Council of Teachers of English will sponsor a workshop for teachers of secondary school English.

The emphasis will be upon the concept of integration in the teaching of literature, composition, and language and journalism through deeper insight into the humanities, through better acquaintance with the newer media of instruction, and through the development of new techniques and materials of instruction.

Lectures by national and State authorities will be presented; discussion groups of all the participants will be held; and working sessions under University and State leaders will be provided.

The workshop will be held from July 1 to July 19, from 10:00 a.m. to 3:30 p.m., Monday through Friday. Three (3) hours of credit may be earned. All workshop participants must be admitted to the University as special students or to the Graduate School as graduate students before June 1, 1963. Enrollment will be limited and preference will be given to teachers with two years or more of secondary school experience. Registration will be July 1.

All correspondence concerning application or information should be addressed to Miss Marie D. Bryan, College of Education.

Institute for Teachers of Mathematics in Junior High School

The Department of Mathematics of the College of Arts and Sciences with the financial support of the National Science Foundation is offering a six-week Summer Institute for junior high school teachers of mathematics. Its purpose is to assist the teachers in improving the quality of teaching of mathematics at the junior high school level. The Institute should also give the teachers a better understanding of current curricular developments and make it possible for them to interpret these developments for junior high school programs.

Participants of the Institute who are graduate students in the College of Education may obtain graduate credit for the six hours of course work completed in connection with the Institute.

Mathematics 182—Foundations of Algebra, and Mathematics 199—Summer Institute for Teachers of Science and Mathematics are required of each participant. For more information on the courses see the listings under the Department of Mathematics. In addition there will be a demonstration class in which experimental material for grades seven and/or eight will be taught. A seminar will provide for discussion of the materials in the demonstration class and associated teaching problems.

Financial assistance in the form of a National Science Foundation grant will be available to about 30 participants at the standard N.S.F. rate of \$75 per week plus \$15 per week for each dependent (to a maximum of four). This stipend will be tax free to students enrolled for credit toward a degree. A travel allowance of 4 cents per mile for a single round trip from the participants home to the

Institute (to a maximum of \$80) will also be paid. All tuition and fee charges will be paid by the N.S.F. grant.

Participants are expected to have had at least two years experience teaching mathematics at the junior high school level and to have been appointed to a junior high school position for 1962-63.

Inquires should be addressed to: Professor G. R. Lehner, Director, Summer Institute for Mathematics Teachers, Department of Mathematics, University of Maryland, College Park, Maryland.

National Science Foundation Seminar in Plant Virology

The University of Maryland, in cooperation with 14 other Southern Universities and the Southern Regional Education Board, will offer a course in Advanced Plant Virology, presented as a seminar, for six weeks, June 24-August 2. Participation will be limited to selected staff members and advanced graduate students from the cooperating institutions and from other institutions if space and facilities permit.

This Seminar will consist of integrated lectures, discussions, and laboratory experience. Six semester credit hours will be allowed for successful completion of the course; enrollment will be in Botany 303 and regular examinations will be given for those desiring credit.

Dr. H. D. Sisler will serve as Director of this N.S.F. Seminar, assisted by Dr. M. K. Corbett, University of Florida, and 18 visiting scientists, each of whom will spend about one week with the class.

The Seminar is supported by a grant from the National Science Foundation, The Departments of Veterinary Science and Microbiology are cooperating with the Botany Department in offering this Seminar.

Course Offerings

An "S" before a course number denotes that the course is offered in Summer School only. An "S" after a course number indicates a regular course modified for summer school offering.

Courses may be cancelled if the number of students enrolled is below certain minima. In general, freshman and sophomore courses will not be maintained for classes smaller than 20. Minimum enrollments for upper level undergraduate courses and graduate courses will be 15 and 10 respectively.

AGRICULTURAL ECONOMICS

A.E. 198. Special Problems. (1-2) (2 cr. max.) (Not for Graduate Cr.)

To be arranged. Concentrated reading and study in some phase or problem in Agricultural Economics. (Staff)

A.E. 301. Special Problems in Agricultural Economics. (1-2) (4 cr. max.)

To be arranged. Intensive study and analysis of specific problems in the field of Agricultural Economics, which will provide information in depth in areas of special interest to the student. (Staff)

A.E. 399. Research. (6 cr. MS; additional 12 cr. Ph.D.)

To be arranged. Advanced research in Agricultural Economics. Credit according to work accomplished. (Staff)

AGRICULTURAL ENGINEERING

Agr. Engr. 198. Special Problems in Farm Mechanics. (1-3)

Prerequisite, approval of Department. Not acceptable for majors in agricultural engineering. Problems assigned in proportion to credit registered for. (Gienger)

Agr. Engr. 301. Special Problems in Agricultural Engineering. (1-6)

Work assigned in proportion to amount of credit. (Staff)

Agr. Engr. 399. Research. (1-6)

Credit according to work accomplished. (Staff)

AGRICULTURAL AND EXTENSION EDUCATION

R.Ed. 170 A-B. Workshop: Teaching Conservation of Natural Resources. (3, 3)
Six weeks, June 24-August 2.

Arranged. Fee, \$35.00. This workshop is devoted to a study of the state's basic wealth, its natural resources, natural resource problems and practices pertinent to local, state, national and world welfare. (Erickson)

R.Ed. 198. Special Problems in Agricultural Education. (1-3)

Arranged. Prerequisite, approval of staff. Credit in accordance with amount of work planned. A course designed for advanced undergraduates for problems in teaching vocational agriculture. (Staff)

R.Ed. 207. Problems in Rural Education. (2)

Arranged. Consideration of current problems and topics in rural education. (Smith)

R.Ed. 208. Problems in Vocational Agriculture. (2)

Arranged. Consideration of current problems and topics in rural education. (Cardozier)

R.Ed. S250 A-B. Critique in Rural Education. (1, 1)

Arranged. Current problems of teaching agriculture are analyzed and discussed. Students are required to make investigations, prepare papers and make reports. (Cardozier)

R.Ed. 301. Field Problems in Rural Education. (1-3)

Arranged. Prerequisite, six semester hours of graduate study. Problems accepted depend upon the character of the work of the student and the facilities available for study. Periodic conferences required. Final report must follow accepted pattern for field investigations. (Staff)

R.Ed. 399. Research. (1-6)

Arranged. Credit hours according to work done. (Staff)

AGRONOMY

Agron. 198. Special Problems in Agronomy. (1)

For advanced undergraduates only. Prerequisite, Agron. 10, 107, 108 or permission of instructor. A detailed study, including a written report of an important problem in agronomy. (Staff)

Agron. 208. Research Methods. (2)

Prerequisite, permission of staff. Development of research viewpoint by detailed study and report on crop research of the Maryland Experiment Station or review of literature on specific phases of a problem. (Staff)

Agron. 399. Research in Agronomy.

Credit according to work done. (Staff)

ANIMAL SCIENCE

An. Sci. S180. Special Topics in Animal Science. (1)

Prerequisite, permission of instructor. This course is designed primarily for teachers of vocational agriculture and Extension Service personnel. One primary topic to be selected mutually by the instructor and students will be presented at each session. (Staff)

An. Sci. 190. Special Problems in Animal Science. (1-2) (4 cr. max.)

Prerequisite, approval of staff. Work assigned in proportion to amount of credit. A course designed for advanced undergraduates in which specific problems relating to animal science will be assigned. (Staff)

An. Sci. 301. Special Problems in Animal Science. (1-2) (4 cr. max.)

Prerequisite, approval of staff. Work assigned in proportion to amount of credit. Problems will be assigned which relate specifically to the character of work the student is pursuing. (Staff)

An. Sci. 399. Research in Animal Science. (1-12)

Work assigned in proportion to amount of credit. Students will be required to pursue original research in some phase of animal science, carrying same to completion, and report the results in the form of a thesis. (Staff)

ART

Art 1. Basic Drawing. (3)

8:00-9:20 M.T.Th.F. A-307

Drawing preparatory to life and portrait drawing and painting. Stress is placed on fundamental principles, such as the study of relative proportions, values and modeling, etc. (O'Connell)

Art 5. Basic Design. (3)

11:00-12:20 M.T.Th.F. A-7

A basic course in design for beginners consisting of the theory and practice of design. Theory of design deals with design elements such as line, shape, form, etc., and design principles such as contrast, balance, rhythm, etc. Design practice consists of working with pencil, pen, water color, casein, and other media in terms of organization, representation and space. (Freeny)

Art 11. History of Art. (3)

9:30-10:50 M.T.Th.F. A-302

Designed to continue the survey begun in Art 9. The course is concerned with the development of painting, sculpture and architecture from the Renaissance to the present day. (Grubar)

ART, BOTANY

Art 13. Elementary Sculpture. (2)

8:00-9:20 M.W.F. A-7

Study of three-dimensional composition in round and bas-relief. Mediums used: clay, plasteline, plaster, wood, stone. (Freeny)

Art 20. Art Appreciation. (2)

8:00-9:20 M.T.Th.F. June 24-Aug. 2 A-303

An introduction to the technical and aesthetic problems of the artist. The student becomes acquainted with the elements that go into a work of the visual arts. He is made aware of the underlying structure that results in the "wholeness" of an art work. He will see examples (originals and reproductions) of masterpieces of art. (Lembach)

Art 109. Modern Art. (3)

11:00-12:20 M.T.Th.F. A-302

A survey of the developments in various schools of modern art. Works of art analyzed according to their intrinsic values and in their historical background. Collections of Washington and Baltimore are utilized. (Grubar)

Art 110. Print Making. (3)

9:30-10:50 M.T.Th.F. A-7

Basic experiences in the various print making media: woodcut, etching, and lithography. Emphasis on a demonstrated understanding of the means of making fine prints. (O'Connell)

BOTANY

Bot. 1. General Botany. (4)

Lectures M.T.Th.F., 8:00-8:50, A-1. Four laboratory periods, E-212; Sec. 1—M.T.Th.F., 9:00-10:50; Sec. 2—M.T.Th.F., 11:30-1:20. Laboratory fee \$6.00. General introduction to botany, touching briefly on all phases of the subject. Emphasis is on the fundamental biological principles of the higher plants. (Rappleye, Assistants)

Bot. 101. Plant Physiology. (4)

Lectures M.T.Th.F., 8:00-8:50, E-116. Laboratory, M.T.Th.F., 1:00-2:50. Prerequisites, Bot. 1 and General Chemistry. Laboratory fee \$6.00. A survey of the general physiological activities of plants. (Lockard, Assistant)

Bot. 136. Plants and Mankind. (2)

M.T.Th.F. 9:30-10:50, E-116. Prerequisite, Bot. 1 or equivalent. A survey of the plants which are utilized by man, the diversity of such utilization, and their historic and economic significance. (Rappleye)

BOTANY, BUSINESS ORGANIZATION AND ADMINISTRATION

Bot. 303. Advanced Plant Virology. (6)

Summer, 1963 only; 6 weeks, June 24-Aug. 2. Lecture daily, 9:00-11:20, laboratory daily, 1-5. Prerequisite, permission of instructor; enrollment limited to participants in the National Science Foundation Institute in Plant Virology. An intensive study of the biology, biochemistry, and biophysics of plant viruses and virus diseases. Emphasis will be given to recent advances in plant virology. Instruction in each specialty will be given by leading authorities from England, Canada, and the United States. (Sisler, Visiting Staff)

Bot. 399. Research.

Credit according to work done. A minimum of 6 credit hours is required for the M.S. degree and an additional minimum of 12 hours is required for the Ph.D. degree. Students must be qualified to pursue with profit the research to be undertaken. (Staff)

BUSINESS ORGANIZATION AND ADMINISTRATION

B.A. 10. Introduction to Business. (3)

June 24-Aug. 16. M.T.Th.F., 11:00-12:20; Q-132. No prerequisite. A survey course treating the internal and functional organization of a business enterprise, its organization and control. (Calhoun)

B.A. 20. Principles of Accounting. (3)

June 24-Aug. 16. M.T.Th.F., 9:30-10:50; Q-122. Prerequisite, sophomore standing. The fundamental principles and problems involved in accounting for proprietorships, corporations and partnerships. (Sweeney)

B.A. 21. Principles of Accounting. (3)

June 24-Aug. 16. M.T.Th.F., 8:00-9:20; Q-104. Prerequisite, Sophomore standing. The fundamental principles and problems involved in accounting for proprietorships, corporations and partnerships. (Sweeney)

B.A. 111. Intermediate Accounting. (3)

June 24-Aug. 16. M.T.Th.F., 8:00-9:20; Q-122. Prerequisite, B.A. 21. A comprehensive study of the theory and problems of valuation of assets, application of funds, corporation accounts and statements, and the interpretation of accounting statements. (Edelson)

B.A. 120. Accounting Systems. (3)

June 24-Aug. 16. M.T.Th.F., 8:00-9:20; Q-123. How to make a survey of the business, select the methods to be used, design the system or procedure, and prepare the systems report or manual. (Himes)

BUSINESS ORGANIZATION AND ADMINISTRATION

B.A. 124. Advanced Accounting. (3)

June 24-Aug. 16. M.T.Th.F., 11:00-12:20; Q-122. Prerequisite, B.A. 111 or consent of instructor. Advanced accounting theory applied to specialized problems in partnerships, ventures, consignments, installment sales, insurance, statement of affairs, receiver's accounts, realization and liquidation reports, governmental accounting, and applications of mathematics to accounting problems. (Edelson)

B.A. 130. Elements of Business Statistics I. (3)

June 24-Aug. 16. M.T.Th.F. Prerequisite, Junior Standing. Laboratory fee, \$3.50. Section I—8:00, Q-103; Section II—9:30, Q-103. An introductory course. Emphasis is placed upon statistical inference. Topics covered include statistical observation, frequency distributions, averages, measures of variability, elementary probability, sampling, distributions, problems of estimation, simple tests of hypotheses, index numbers, time series, graphical and tabular presentation. Selected applications of the techniques are drawn from economics, industrial management, marketing and accounting. (Nelson, Anderson)

B.A. 140. Business Finance. (3)

June 24-Aug. 16. M.T.Th.F., 8:00-9:20; Q-111. This course deals with principles and practices involved in the organization, financing, and reconstruction of corporations; the various types of securities, and their use in raising funds, apportioning income; risk and control; intercorporate relations; and new developments. Emphasis on solution of problems of financial policy faced by management. (Calhoun)

B.A. 159. Marketing Principles and Organization. (3)

June 24-Aug. 16. M.T.Th.F., 9:30-10:50; Q-123. Prerequisite, Economics 32 or 37. This is an introductory course in the field of marketing. Its purpose is to give a general understanding and appreciation of the forces operating, institutions employed, and methods followed in marketing agricultural products, natural products, services, and manufactured goods. (Cook)

B.A. 160. Personnel Management. (3)

June 24-Aug. 16. M.T.Th.F., 12:30-1:50; Q-104. This course deals essentially with functional and administrative relationships between management and the labor force. It comprises a survey of the scientific selection of employees, "in-service" training, job analysis, classification and rating, motivation of employees, employee adjustment, wage incentives, employee discipline and techniques of supervision, and elimination of employment hazards. (Sylvester)

B.A. 163. Industrial Relations. (3)

June 24-Aug. 16. M.T.Th.F., 9:30-10:50; Q-111. Prerequisite, B.A. 160 and Senior Standing. A study of the Development and methods of organized groups in industry with reference to the settlement of labor disputes. An economic and legal analysis of labor union and employer association activities, arbitration, mediation and conciliation; collective bargaining, trade agreements, strikes, boycotts, lockouts, company unions, employee representation and injunctions. (Spivey)

B.A. 168. Management and Organization Theory. (3)

June 24-Aug. 16. M.T.Th.F., 11:00-12:20; Q-111. The historical development of management and organization theory, nature of the management process and function and its future development. The role of the manager as an organizer and director, the communication process, goals and responsibilities. (Spivey)

B.A. 181. Business Law. (3)

June 24-Aug. 16. M.T.Th.F., 8:00-9:20; Q-28. Required in all Business Administration curriculums. Legal aspects of business relationships, contracts, negotiable instruments, agency, partnerships, corporations, real and personal property and sales. (Dawson)

B.A. 182. Advanced Business Law. (3)

June 24-Aug. 16. M.T.Th.F., 9:30-10:50; Q-28. Designed primarily for CPA candidates. Legal aspects of wills, insurance, torts and bankruptcy. (Dawson)

B.A. 262. Seminar in Contemporary Trends in Labor Relations. (3)

(Meeting hours arranged.) Open only to graduate students. (Sylvester)

B.A. 399. Thesis. (Arranged)

CHEMISTRY

All laboratory courses in chemistry (except Chem. 214—\$20.00) carry a laboratory fee of \$12.00; in addition the student is charged for any apparatus which cannot be returned to the stock room in perfect condition.

Chem. 1. General Chemistry. (4)

June 24-Aug. 16. M.T.Th.F. Four lectures and four three-hour laboratory periods per week. Lecture 11:00 C-130. Laboratory, 1:00, 2:00, 3:00. Prerequisite, 1 year high school algebra or equivalent. (Boyd)

Chem. 3. General Chemistry. (4)

June 24-Aug. 16, M.T.Th.F. Four lectures and four three-hour laboratory periods per week. Lecture, 11:00, C-132. Laboratory, 1:00, 2:00, 3:00. Prerequisite, Chem. 1. (Jaquith)

Chem. 19. Elements of Quantitative Analysis. (4)

June 24-Aug. 16. Four lectures and four laboratory periods per week. Lecture 12:30-1:20, C-215, M.T.Th.F. and laboratory M.T.Th.F., 8:00-10:50. Prerequisite, Chem. 3. (Stuntz)

Chem. 37. Elementary Organic Chemistry. (2)

June 24-Aug. 16. M.T.Th.F. Four lectures per week. 8:00, C-134. Prerequisite, Chem. 35. (Henery-Logan)

CLASSICAL LANGUAGES AND LITERATURES, DAIRY, ECONOMICS

Chem. 38. Elementary Organic Laboratory. (2)

June 24-Aug. 16. M.T.Th.F. Four three-hour laboratory periods per week. 9:00, 10:00, 11:00, C-221. Prerequisite, Chem. 36. (Henary-Logan)

Chem. 192, 194. Glassblowing Laboratory. (1, 1)

June 24-Aug. 2. Two four-hour laboratory periods a week. M., W., 1:00, 2:00, 3:00, 4:00, C-B3. (Carruthers)

Chem. 399. Research. (Staff)

CLASSICAL LANGUAGES AND LITERATURES

Latin 102. Tacitus. (3)

June 24-Aug. 16. M.T.Th.F., 9:30-10:50, LL-1. Lectures and readings on Greek and Roman historiography before Tacitus and on the author as a writer of history. The reading of selections from the Annals and Histories. Reports. (Avery)

DAIRY SCIENCE

Dairy S101. Advanced Dairy Production. (1) (to be arranged)

An advanced course primarily designed for teachers of vocational agriculture and county agents. It includes a study of the newer discoveries in dairy cattle nutrition, breeding and management. (Davis)

Dairy 301. Special Problems in Dairying. (1-5) (4 cr. max., M.S., 8 cr. Max, Ph.D.)

Prerequisite, permission of professor in charge of work. Credit in accordance with the amount and character of work done. Methods of conducting dairy research and the presentation of results are stressed. A research problem which relates specifically to the work the student is pursuing will be assigned. (Staff)

Dairy 399. Research. (1-6)

Credit to be determined by the amount and quality of work done. Original investigation by the student of some subject assigned by the major professor, and completion of the assignment and the preparation of a thesis in accordance with requirements for an advanced degree. (Staff)

ECONOMICS

Econ. 4. Economic Developments. (2)

June 24-Aug. 16. Three periods a week, M.W.F., 11:00; G-205. No prerequisite. An introduction to modern economic institutions—their origins, development and present status. Emphasis on development in England, Western Europe and the United States. (Bennett)

Econ. 5. Economic Developments. (2)

June 24-Aug. 16. Three periods a week, M.W.F., 12:30; Q-111. No prerequisite. An introduction to modern economic institutions—their origins, development and present status. Emphasis on development in England, Western Europe and the United States. (Staff)

Econ. 31. Principles of Economics. (3)

June 24-Aug. 16. M.T.Th.F., 8:00; Q-107. Prerequisite, sophomore standing. A general analysis of the functioning of the economic system, with special emphasis on national income analysis. A considerable portion of the course is devoted to a study of basic concepts and explanatory principles. The remainder deals with the major problems of the economic system. (Staff)

Econ. 32. Principles of Economics. (3)

June 24-Aug. 16. M.T.Th.F., 9:30; Q-107. Prerequisite, Econ. 31. A general analysis of the functioning of the economic system, with special emphasis on resource allocation. A considerable portion of the course is devoted to a study of basic concepts and explanatory principles. The remainder deals with the major problems of the economic system. (Staff)

Econ. 37. Fundamentals of Economics. (3)

June 24-Aug. 16. M.T.Th.F., 8:00; Q-129. Prerequisite, sophomore standing. Not open to students who have credit in Econ. 31 and 32. Not open to freshmen or to B.P.A. students. A survey of the general principles underlying economic activity. This is the basic course in economics for the American Civilization Program for students who are unable to take the more complete course provided in Econ. 31 and 32. (Staff)

Econ. 132. Advanced Economic Principles. (3) M.T.Th.F., 9:30; Q-104

Prerequisite, Econ. 32. Required for economics majors. This course is an analysis of price and distribution theory with special attention to recent developments in the theory of imperfect competition.

Econ. 140. Money and Banking. (3)

June 24-Aug. 16. M.T.Th.F., 8:00; Q-228. Prerequisite, Econ. 32 or 37. A study of the organization, functions, and operation of our monetary, credit, and banking system; the relation of commercial banking to the Federal Reserve System; the relation of money and credit to prices; domestic and foreign exchange and the impact of public policy upon banking and credit. (Bennett)

Econ. 160. Labor Economics. (3)

June 24-Aug. 16. M.T.Th.F., 11:00; Q-107. Prerequisite, Econ. 32 or 37. The historical development and chief characteristics of the American Labor movement are first surveyed. Present day problems are then examined in detail; wage theories, unemployment, social security, labor organization, collective bargaining. (Staff)

Econ. 399. Thesis.

EDUCATION

BUSINESS EDUCATION

B.Ed. 101. Problems in Teaching Office Skills. (2)

June 24-Aug. 2, Daily, 11:00-11:50; Q-20. Problems in development of occupational competency, achievement tests, standards of achievement, instructional materials, transcription, and the integration of office skills. (O'Neill)

B.Ed. 104. Basic Business Education in the Secondary Schools. (2)

June 24-Aug. 2, Daily, 8:00-8:50, Q-27. Includes consideration of course objectives; subject matter selection; and methods of organizing and presenting business principles, knowledge, and practices. (Everard)

B.Ed. 200. Administration and Supervision of Business Education. (3)

June 24-Aug. 2, Daily, 9:30-10:50; Q-20. Major emphasis on departmental organizations curriculum equipment, budget-making, guidance, placement and follow-up, visual aids and the in-service training of teachers. For administrators, supervisors, and teachers of business subjects. (Dame)

B.Ed. 255.—Principles and Problems of Business Education. (3)

June 24-Aug. 2, Daily, 12:30-1:50, Q-27. Principles and practices in business education growth and present status; vocational business education; general business education relation to consumer education and to education in general. (Dame)

Educator's Workshop on Automatic Data Processing. (2)

June 24-July 5. See Ed. 189-53 in this catalog.

Education in Family Finance Workshop. (4)

July 8-August 2. See Ed. 189-1 in this catalog.

EARLY CHILDHOOD EDUCATION ¹*C. Ed. 110. Child Development III. (3)*

June 24-Aug. 16, M.T.Th.F., 8:00, AA 8. Developmental growth of the child from the prenatal period through the early childhood years with implications for home and school practice. Open to students in other colleges of the University. (Hymes)

C. Ed. 115. Children's Activities and Activities Materials. (3)

June 24-Aug. 2, Daily, 9:30; AA 9. Prerequisites, C. Ed. 50, 51 or 110. Laboratory fee, \$5.00. Storytelling, selection of books; the use and preparation and presentation of such raw materials as clay, paints (easel and finger), blocks, wood, and scrap materials. (Stant.)

¹The early childhood education curriculum has as its primary goal the preparation of nursery school, kindergarten, and primary teachers.

C. Ed. 119. Curriculum, Instruction, and Observation—Cooperative Nursery Schools. (3)

June 24-Aug. 2, Daily, 8:00; AA 9. Prerequisites, C. Ed. 50, 51, or 110. Philosophy of early childhood education, with emphasis on the special problems of cooperative nursery schools, and on the activities, materials, and methods by which their educational objectives are attained. (Stant.)

C. Ed. 149. Teaching Nursery School. (4) (Arranged)

June 24-Aug. 2, Daily. Admission to student teaching depends upon approval of the teaching staff of the department. An academic average of 2.3 is required. Teaching experience in the University Nursery School. Fee, \$30.00. (Broome.)

C. Ed. 160. Teacher-Parent Relationships. (3)

June 24-Aug. 16, M.T.Th. F., 9:30. AA 8. A study of the methods and materials, trends, and problems in establishing close home-school relationships. (Hymes)

ELEMENTARY-SECONDARY EDUCATION

Ed. 52. Introduction to Children's Literature (3)

Daily 9:30, June 24-August 2; A-17. Prerequisites, Eng. 1 and 2. A survey of literary materials for children and young people. Appropriate books for pre-school, elementary, and junior high school pupils are considered, including picture-story, fiction, folk-lore, poetry, and informational books. Integrating literature with the curriculum, and methods of using books with children in the classroom. Aids and criteria for selection. (Staff)

Ed. 102. History of Education in the United States. (3)

June 24-Aug. 2, Daily, 11:00; A-17. A study of the origins and development of the chief features of the present system of education in the United States. (Stewart)

Ed. 105. Science in the Elementary Schools. (3)

Section 1—8:00, Daily, June 24-August 2; T-119. (Blough)
Section 2—Daily, 11:00, June 24-August 2; T-119. (F. Brown)

Laboratory fee \$2.00. Designed to help teachers acquire general science understandings and to develop teaching materials for practical use in classrooms. Includes experiments, demonstrations, constructions, observations, field trips, and use of audio visual materials. The emphasis is on content and method related to science units in common use in elementary schools. Formerly called Sci. Ed. 105.

Ed. 121. The Language Arts in the Elementary School. (3)

Section 1—8:00, M.T.Th.F., June 24 to Aug. 16; LL-104. (Staff)
Section 2—9:30, Daily, June 24 to Aug. 2; A-18. (Bennett)

Concerned with the teaching of spelling, handwriting, oral and written expression, and creative expression. Special emphasis given to skills having real significance to pupils.

EDUCATION

Ed. 122. The Social Studies in the Elementary School. (3)

Section 1—8:00 Daily, June 24 to Aug. 2; A-18. (O'Neill)

Section 2—9:30 M.T.Th.F., June 24 to Aug. 16; T-10. (Weaver)

Section 3—11:00 Daily, June 24 to Aug. 2; A-18. (O'Neill)

Consideration given to curriculum, organization, methods of teaching, evaluation of newer materials, and utilization of environmental resources.

Ed. 124. Arithmetic in the Elementary School. (3)

Section 1—8:00 M.T.Th.F., June 24 to Aug. 16; A-48. (Schindler)

Section 2—9:30 M.T.Th.F., June 24 to Aug. 16; A-48. (Schindler)

Section 3—9:30 Daily, June 24 to Aug. 2; F-101. (Grossnickle)

Emphasis on materials and procedures which help pupils sense arithmetical meanings and relationships. Helps teachers gain a better understanding of the number system and arithmetical processes.

Ed. 125. Art in Elementary Schools. (3)

Section 1— 9:30 M.T.Th.F., June 24 to Aug. 16; H-102. (Longley)

Section 2—11:00 M.T.Th.F., June 24 to Aug. 16; A-302. (Longley)

Concerned with art methods and materials for elementary schools. Includes laboratory experiences with materials appropriate for elementary schools. Enrollment limited to 25 per section.

Note: Teachers who need an art fundamentals course to meet certification requirements, may fulfill that requirement with Pr. Arts 1 or Art 20. Pr. Arts 1 is listed under Home Economics. See page 55 for the course description.

Ed. 130. The Junior High School. (3)

June 24-Aug. 2, Daily, 8:00; A-14. A general overview of the junior high school. Purposes, functions, and characteristics of this school unit; a study of its population, organization, program of studies, methods, staff, and other similar topics, together with their implications for prospective teachers. (Crosby)

Ed. 133. Methods of Teaching Social Studies in Secondary Schools. (3)

June 24-Aug. 16, M.T.Th.F., 9:30; A-16. Designed to give practical training in the everyday teaching situations. Use of various lesson techniques, audio and visual aids, reference materials, and testing programs and the adaption of teaching methods in individual and group differences. Present tendencies and aims of instruction in the social studies. (Risinger)

Ed. 134. Materials and Procedures for the Secondary School Core Curriculum. (3)

June 24-Aug. 16, M.T.Th.F., 11:00; Q-129. Fee, \$1.00. This course is designed to bring practical suggestion to teachers who are in charge of core classes in junior and senior high schools. Materials and teaching procedures for specific units of work are stressed. (Pickett)

Ed. 137. Methods of Teaching Mathematics in Secondary Schools. (3)

June 24-Aug. 16, M.T.Th.F., 9:30; A-14. Considers the methods and procedures for presenting secondary mathematics in a meaningful way. Special attention will be given to the new experimental materials which have been prepared for grades 7-12 and the techniques needed to teach these courses. (Cole)

Ed. 141. Methods of Teaching English in Secondary Schools. (3)

June 24-Aug. 16, M.T.Th.F., 8:00; A-130. Content and method in teaching the English language arts. (Bryan)

Ed. 142. Oral-aural Method in Teaching Foreign Languages. (3)

June 24-Aug. 2, Daily, 11:00; LL-220. Prerequisite, 20 academic hours in a particular language and approval of adviser. Graduate credit allowed by special arrangement and adviser's approval. Designed for high school teachers. Methods in making and using tape recordings, using electronic laboratories, developing oral-aural skills and direct approach to language teaching are emphasized. (Rovner)

Ed. 145. Principles and Methods of Secondary Education. (3)

June 24-Aug. 16, M.T.Th.F., 8:00; A-110. This course is concerned with the principles and methods of teaching in junior and senior high schools. Prerequisites HDEd 100, & 101, or Psych 110. Open only to students on programs leading to full certification under a Teacher Education Adviser. (Harrison)

Ed. 147. Audio-Visual Education. (3)

Section 1— 8:00, Daily, June 24-Aug. 2; P-306. (Maley)
 Section 2— 9:30, Daily, June 24-Aug. 2; P-306. (Schramm)
 Section 3—11:00, M.T.Th.F., June 24-Aug. 16; P-300. (Schramm)

Laboratory fee, \$1.00. Sensory impression in their relation to learning, projection apparatus, its cost and operation; slides, film-strips, and films; physical principles underlying projection; auditory aids to instruction; field trips; pictures, models, and graphic materials, integration of sensory aids with organized instruction. Recommended for all education students.

Ed. 150. Educational Measurement. (3)

Sec. 1—June 24-Aug. 2, Daily, 11:00; A-16. (Giblette)
 Sec. 2—June 24-Aug. 16, M.T.Th.F., 12:30; A-16. (Gerberich)
 Constructing and interpreting measures of achievements.

Ed. 151. Statistical Methods in Education. (3)

Section 1— 8:00 M.T.Th.F., June 24-Aug. 16; T-10. (Dayton)
 Section 2— 9:30 M.T.Th.F., June 24-Aug. 16; A-12. (Nelson)

Designed as a first course in statistics for students in education. Emphasis is upon educational applications of descriptive statistics, including measures of central tendency, variability and association.

EDUCATION

Ed. 152. Literature for Children and Young People, Advanced. (3)

June 24-Aug. 2, Daily, 11:00; A-323. Prerequisite, Ed. 52, or approval of instructor. Development of literary materials for children and young people. Timeless and ageless books, and outstanding examples of contemporary publishing. Evaluation of the contributions of individual authors and illustrators and children's book awards. Study and practice in story-telling, and reading guidance in the classroom and library. (Staff)

Ed. 153. The Teaching of Reading. (3)

Section 1— 8:00, Daily, June 24-Aug. 2; LL-105. (Hall)

Section 2— 9:30, M.T.Th.F., June 24-Aug. 16; LL-104. (Poore)

Section 3—11:00, M.T.Th.F., June 24-Aug. 16; LL-201. (Sullivan)

Concerned with fundamentals of development reading instruction, including reading readiness, uses of experience records, procedures in using basal readers, the improvement of comprehension, teaching reading in all areas of the curriculum, uses of children's literature, the program in word analysis, and procedures for determining individual needs.

Ed. 154. Remedial Reading Instruction. (3)

June 24-Aug. 16, M.T.Th.F., 8:00; Ed. Annex. For supervisors and teachers who wish to help retarded readers. Concerned with causes of reading difficulties, the identification and diagnosis of retarded pupils, instructional materials, and teaching procedures. Prerequisite, Ed. 153 or the equivalent. (Fanning)

Ed. 155. Laboratory Practice in Reading for Elementary and Secondary Schools. (3)

June 24-Aug. 16, Daily, Arranged; Ed. Annex. Prerequisite, Ed. 154. A laboratory course in which each student has one or more pupils for analysis and instruction. At least one class meeting per week to diagnose individual cases and to plan instruction. (Fanning)

Application for enrollment should be mailed to Dr. Will J. Massey, College of Education, before June 1, 1963.

Ed. 160. Educational Sociology. (3)

June 24-Aug. 16, M.T.Th.F., 11:00; A-231. This course deals with data of the social sciences which are germane to the work of teachers. Consideration is given to implications of democratic ideology for educational endeavor, educational tasks imposed by changes in population and technological trends, the welfare status of pupils, the socio-economic attitudes of individuals who control the schools, and other elements of community background which have significance in relation to schools. (Risinger)

Ed. 161. Introduction to Counseling and Pupil Services. (3)

June 24-Aug. 16, 8:00, M.T.Th.F.; A-231. Presents guidance principles and procedures, and examines the functions of counselors, psychologists in schools, school social workers, and other pupil service workers. (Anglin)

Ed. 162. Mental Hygiene in the Classroom. (3)

Section 1—Daily, 8:00, June 24-Aug. 2; T-102.

(Greenberg)

Section 2—Daily, 9:30, June 24-Aug. 2; T-102.

(Greenberg)

The practical application of the principles of mental hygiene to classroom problems. Limit enrollment to 30 per section.

Ed. 188. Special Problems in Education. (1-3)

Prerequisite, consent of instructor. Available only to mature students who have definite plans for individual study of approved problems. *Course cards must have the title of the problem and the name of the faculty member who has approved it.*

(Staff)

*Ed. 189. Workshops, Clinics, and Institutes.**Ed. 189-1. Education in Family Finance. (4)*

Daily, 9:00-3:00; Q-131. July 8-August 2. Especially designed for junior, senior high school, and college teachers and other educators interested in developing and improving classroom instruction in personal and family money management. Activities of the total workshop include lectures by staff and consultants, small group work, study of individual problems, field trips and evaluation of available materials. For a detailed description of the workshop see page 15. Early application is recommended.

(C. R. Anderson)

Ed. 189-11. Use of Community Resources. (3)

June 24 to July 12, 1963, Daily, 9:30-3:30; AR-29. This workshop is offered for persons who teach in kindergarten or in grades one to twelve, inclusive. It is designed to help teachers learn to utilize community resources to strengthen a sound program of teaching and learning. The Smithsonian Institution will receive special attention as an excellent example of a valuable community resource.

(Brinton)

Ed. 189-25. Workshop in Educational Data Processing for Administrators. (2) AR-20.

This workshop is designed to acquaint educational administrators and related personnel with the uses to which electronic data processing can be applied in education systems. The workshop will meet daily 9-3 on the College Park Campus, July 29-Aug. 9. Two (2) units of undergraduate or graduate credit may be earned. Those interested in obtaining further information on this workshop should contact Dr. Jean R. Hebel, Education Annex Building, College Park.

Ed. 189-26. Human Relations in Educational Administration. (6)

June 24-August 2, Daily, 9:00-3:00; AR-30. Prerequisite, a master's degree. Enrollment limited. This workshop is concerned with the development of leadership teams capable of providing in-service programs in human relations in local school systems. Preference in enrollment will be given to teams designated by Maryland school systems.

(Grambs, Newell)

EDUCATION

Ed. 189-28. The Administration and Supervision of Special Education Programs. (3)

July 22-August 2, Daily, 9:00-3:00; A-6. This workshop will consider the areas of primary concern to administrators and supervisors in determining Special Education needs, and in establishing and carrying out educational program modification. (Gates, Hebel)er

Ed. 189-29. The Education of Children with Learning Impairments. (4)

June 24-July 19, Daily, 9:00-3:00. To be arranged off-campus. This workshop will consider the basis for and demonstrate techniques and materials in teaching children with learning disabilities. (Hebel)er and consultants)

Ed. 189-30. The Education of Children with High Intellectual Ability. (4)

June 24-July 19, 1963, Daily, 9:00-3:00; A-6. The workshop will be concerned with characteristics, identification, program planning and implimentation for able learners at both the elementary and secondary level. The workshop will meet off-campus. *Students planning to attend the workshop should request the Special Education Summer Session Brochure for program details.*

(Hebel)er and Simms)

Ed. 189-33. Child Study Leaders. (2)

June 24-July 6, Daily, 8:00-3:00; J-8A. This workshop is designed primarily for leaders or prospective leaders to acquaint them with principles and procedures of the child study program. All three year levels of the program will be covered. (Staff)

Ed. 189-34. Administrators' Conference on Implications of Human Development Principles. (2)

July 8-July 19, Daily, 8:00-3:00; J-8A. This Administrators Conference is open to superintendents of schools, supervisors and principals. It will examine recent scientific research findings and theory regarding human growth, learning and behavior and will consider the implications of this knowledge for educational practice, including such problems as grouping for effective learning, marking, curriculum control, teaching purposes, home-school interaction, the development and use of cumulative records, and mental health problems. (Staff)

Ed. 189-35. I and II. Application of Human Development Principles in Classrooms. (2) (2)

July 8-July 19, Daily, 8:00-3:00; J-107. This workshop is open to persons who have been in the child study program for three years or more. Its purpose is to consider classroom practices in the light of human development principles. (Staff)

Ed. 189-36. I, II, and III. Human Development and Religious Education. (2) (2) (2)

July 22-August 2, Daily, 8:00-3:00; J-12.

I (Beginning Section). This workshop is open to persons who are responsible for planning and organizing programs of religious education. The workshop will be entirely non-denominational and will focus on examining scientific knowledge

about human development, learning, behavior, and adjustment and considering the implications of this knowledge for religious educational practice and church school programs. (Staff)

II (Advanced Section). Open to those who have had a previous workshop in Human Development and Religious Education or a Child Study Workshop. (Staff)

III (Advanced Section). Open to those who have had two previous workshops in Human Development and Religious Education or two Child Study Workshops. (Staff)

Ed. 189-37. Action Research in Human Development Education. (2)

July 8-July 19, Daily, 8:00-3:00; J-12. Survey of action research methods and exploration of design requirements and materials suitable for use in studying classroom problems. When teams enroll, preliminary plans may be developed. (Staff)

Ed. 189-39. Parent Child Study Leaders. (2)

July 22-August 2, Daily, 8:00-3:00; J-8A. This workshop is designed for leaders or prospective leaders of parent child study groups. The workshop will include lecture-discussion presentations of selected concepts for parents of children from birth through adolescence. Surveys will be made of procedures currently in use in Parent Study groups with laboratory sessions designed expressly for Parent Education. (Staff)

Ed. 189-40. Workshop for Coordinators of Parent Child Study Programs. (2)

July 22-August 2, Daily, 8:00-3:00; J-107. This workshop will focus on the organization and coordination of Parent Child Study Programs under the direction of public schools. Problems of publicizing, launching and leadership training will be a major concern. (Staff)

Ed. 189-41. NDEA Counseling and Guidance Training Institute. (7)

June 24-August 9, Daily, 8:00-5:00; J-11. See page 17 for description. (Byrne)

Ed. 189-47. Workshop for Teachers of Secondary School English. (3)

July 8-July 26, Daily, 10:00 to 3:30; G-109A, 109B. The purpose of this workshop is to encourage experienced teachers of secondary school English to study the new trends in the teaching of English, to increase their knowledge and understanding of the subject matter of English, and to prepare materials for use in their own classes. (Bryan, Cooley)

Ed. 189-53. Educator's Workshop on Automatic Data Processing. (2)

June 24-July 5; Daily, 9:00-3:00; Q-19. A prerequisite of mathematics is not required.

This workshop is designed to *introduce* high school teachers and other school personnel to modern punched card and computer systems. Content should be of particular interest to persons teaching and supervising courses in business and mathematics. Activities will include lectures and demonstrations by staff and consultants, individual laboratory work, field trips and evaluation of available materials for high school use. For more complete information on the workshop, see page 16. Early registration is recommended. (Patrick)

EDUCATION

Ed. 189-54. Workshops, Clinics, and Institutes. The Teaching of Controversial Issues in the Schools. (4)

June 24-July 19, Daily, 9:30-3:30; A-8. This course is designed for junior and senior high school teachers who are interested in developing classroom materials and improving instruction in the teaching of controversial issues. Particular emphasis will be given to the teaching of the nature of communism and fascism. Activities of the workshop will include lectures by experts from the fields of history, economics, sociology, and political science, small group work, production of teaching units, and evaluation of suitable classroom materials. (Staff)

Workshop for Aids, Assistants and Volunteers In Programs For Exceptional Children.

This workshop is intended to orient aids, assistants and volunteer workers in programs and facilities for children with various handicapping conditions. The general nature of conditions will be covered with particular specific emphasis upon guidelines and practices relative to duties and responsibilities of ancillary personnel. The workshop will meet daily 9:00-12:00 for two weeks—August 5-16. Offered on a non-credit basis. *Students planning to attend the Workshop should request the Special Education Summer Session Brochure for program details.*

Ed. 202. The Junior College. (3)

June 24-Aug. 2, Daily, 9:30; A-323. The philosophy and development of the junior college in the United States with emphasis on curriculum and administrative controls. Special attention is devoted to the importance, need, place, and development of the technical-terminal or semi-professional curricula. (Kelsey)

Ed. 203. Problems in Higher Education. (3)

June 24-Aug. 2, Daily, 8:00; A-50. A study of present problems in higher education. (Kelsey)

Ed. 205. Comparative Education. (3)

June 24-Aug. 2, Daily, 11:00; A-49. A study of historical changes in ways of looking at national school systems, and of problems in assessing their effectiveness. (Wiggin)

Ed. 210. The Organization and Administration of Public Education. (3)

Section 1—Daily, 8:00, June 24-Aug. 2; A-49. (Strasser)

Section 2—Daily, 11:00, June 24-Aug. 2; A-48. (Strasser)

The basic course in school administration. Deals with the organization and administration of school systems—at the local, state, and federal levels; and with the administrative relationships involved.

Ed. 211. The Organization, Administration, and Supervision of Secondary Schools. (3)

June 24-August 16, M.T.Th.F., 8:00; A-16. The work of the secondary school principal. The course includes topics such as personnel problems, supervision, school-community relationships, student activities, schedule making, and internal financial accounting. (J. P. Anderson)

Ed. 212. School Finance and Business Administration. (3)

June 24-Aug. 2, Daily, 8:00; A-17. An introduction to principles and practices in the administration of the public school finance activity. Sources of tax revenue, the budget, and the function of finance in the educational program are considered. (van Zwoll)

Ed. 216. Public School Supervision. (3)

June 24-August 16, M.T.Th.F., 11:00; Q-123. Deals with recent trends in elementary and high school supervision; the nature and function of supervision; planning supervisory programs; evaluation and rating; participation of teachers and other groups in policy development; school workshops; and other means for the improvement of instruction. (J. P. Anderson)

Ed. 217. Administration and Supervision in Elementary Schools. (3)

June 24-August 16, M.T.Th.F., Section 1, 9:30; LL-202. (Otto)
 Section 2, 11:00; LL-202. (Otto)
 Problems in organizing and administering elementary schools and improving instruction.

Ed. 219. Seminar in Educational Administration and Supervision. (2)

June 24-August 2, M.T.Th.F., 9:30; A-170. Prerequisite, at least four hours in educational administration and supervision or consent of instructor. A student may register for two hours and take the seminar a second time for an additional two hours. (Permenter)

Ed. 225. School Public Relations. (3)

June 24-Aug. 2, Daily, 9:30; A-174. A study of the interrelationships between the community and the school. Public opinion, propaganda, and the ways in which various specified agents and agencies within the school have a part in the school public relations program are explored. (van Zwoll)

Ed. 229. Seminar in Elementary Education. (2)

June 24-Aug. 2, M.T.Th.F., 9:30; A-104. Primarily for individuals who wish to write seminar papers. Enrollment should be preceded by at least 12 hours of graduate work in education. (F. Brown)

Ed. 234. The School Curriculum. (2)

June 24-August 2, M.T.Th.F., 9:30; A-209. A foundations course embracing the curriculum as a whole from early childhood through adolescence, including a review of historical developments, an analysis of conditions affecting curriculum change, an examination of issues in curriculum making, and a consideration of current trends in curriculum design. (Hovet)

Ed. 235. Principles of Curriculum Development. (3)

June 24-August 2, Daily, 9:30; Q-129. Curriculum planning, improvement, and evaluation in the schools; principles for the selection and organization of the content and learning experiences; ways of working in classroom and school on curriculum improvement. (Permenter)

EDUCATION

Ed. 239. Seminar in Secondary Education. (2)

August 5-August 16, Daily, 9:30; A-110.

(Bryan)

Ed. 241. Problems in the Teaching of Reading. (3)

June 24-August 16. Elementary School—8:00, M.T.Th.F.; A-106. Implications of current theory and results of research for the teaching of reading. Attention is given to all areas of developmental reading instructions, with special emphasis on persistent problems. Prerequisite, Ed. 153 or equivalent.

(Poore)

Ed. 243. Problems of Teaching Arithmetic in Elementary Schools. (2)

June 24-August 2, M.T.Th.F., 8:00; A-170. Implications of current theory and results of research for the teaching of arithmetic in elementary schools.

(Grossnickle)

Ed. 244. Problems of Teaching Language Arts in Elementary Schools. (2)

June 24-August 2, M.T.Th.F., 9:30; LL-105. Implications of current theory and results of research for the language arts in the elementary schools.

(Bennett)

Ed. 245. Introduction to Research. (2)

Section 1—M.T.Th.F., 8:00, June 24-Aug. 2; A-12.

(H. M. Anderson)

Section 2—M.T.Th.F., 11:00, June 24-Aug. 2; T-5.

(H. M. Anderson)

Section 3—M.T.Th.F., 12:30, June 24-Aug. 2; Q-129.

(H. M. Anderson)

Ed. 246. Problems of Teaching Social Studies in Elementary Schools. (2)

June 24-Aug. 16, M.W.F., 11:00; A-14. Application to the social studies program of selected theory and research in the social sciences, emphasizing patterns of behavior, environmental influences, and critical thinking.

(Weaver)

Ed. 247. Seminar in Science Education. (2)

Section 1—M.T.Th.F., 9:30, June 24-Aug. 2; T-119 (Elementary)

(Blough)

Section 2—M.T.Th.F., 11:00; June 24-Aug. 16; T-10 (Secondary)

(Lockard)

An opportunity to pursue problems in curriculum making, course of study development, or other science teaching problems. Class members may work on problems related directly to their own school situations.

Ed. 250. Cases in Pupil Appraisal. (3)

June 24-August 16, Daily, 11:00; Q-28. Prerequisite, Ed. 262. Collecting and interpreting non-standardized pupil appraisal data; synthesis of all types of data through case study procedures.

(O'Hern)

Ed. 251. Intermediate Statistics in Education. (3)

June 24-August 16, M.T.Th.F., 9:30; T-5. Prerequisite, Education 151 or equivalent. A study of the basic statistical techniques used for graduate research in education, including tests of significance and sampling techniques. Necessary arithmetic skills are developed as part of the course.

(Dayton)

Ed. 253. Occupational Choice: Theory and Information. (3)

June 24-August 2, Daily 8:00; LL-2. Prerequisite Ed. 161. Research and theory related to occupational and educational decisions; school programs of related information and other activities in occupational decisions.

(Staff)

Ed. 254. Organization and Administration of Pupil Services. (2)

June 24-Aug. 2, M.T.Th.F., 9:30; LL-2. Prerequisite, Ed. 261 or permission of instructor. Instilling the guidance point of view and implementing guidance practices. (Bott)

Ed. 255. Advanced Laboratory Experiences in Reading Instruction. (3)

June 24-Aug. 16, Daily, arranged; Ed. Annex. Prerequisites, 21 crs. applicable to master's program in Corrective and Remedial Reading, including Ed. 154, Ed. 150, and Ed. 141 or Ed. 244. Each participant will assist in *diagnosing* pupils with reading disabilities and in recommending instructional procedures for them. Applications for enrollment must be mailed to Dr. Massey, College of Education, before June 1. (Massey)

Ed. 256. Advanced Laboratory Experiences in Reading Instruction. (3)

June 24-August 16, Daily, arranged; Ed. Annex. Prerequisite: at least 21 credits which are applicable to the master's program in Corrective and Remedial Reading Instruction, including Ed. 154, Ed. 150, and Ed. 141 or Ed. 244. Each participant will assist in *instructing* pupils with reading disabilities. Applications for enrollment must be mailed to Dr. Massey before June 1. (Massey)

Ed. 259. Counseling in Elementary Schools. (3)

June 24-Aug. 16, M.T.Th.F., 12:30; A-12. For elementary school counselors or advanced students preparing for elementary school counseling. The functions of a counselor in elementary schools studied covering both general guidance and interview functions. (Anglin)

Ed. 260. School Counseling: Theoretical Foundations and Practice. (3)

June 24-Aug. 16, M.T.Th.F., 8:00; O-101. Exploration of counseling theories and the practices which stem from them. Ed. 161, Ed. 250, Ed. 253 are prerequisite. (O'Hern)

Ed. 261. Practicum in Counseling. (2)

June 24-August 2, M.T.Th.F., 8:00; O-236. Sequence of supervised counseling experiences of increasing complexity. Limited to 8 applicants in advance. Two hour class plus laboratory. Prerequisites, Ed. 260 and permission of instructor. (Marx)

Ed. 262. Measurement in Pupil Appraisal. (3)

June 24-Aug. 16, M.T.Th.F., 9:30; LL-319. Study of group tests typically employed in school testing programs; discussion of evidence relating to the measurement of abilities. Prerequisite, Ed. 150. (Gerberich)

Ed. 281. Source Materials in Education. (2)

June 24-Aug. 2, M.T.Th.F., 9:30; A-52. Bibliography development through a study of source materials in education, special fields of education, and for seminar papers and theses. (Luetkemeyer)

EDUCATION

Ed. 288. Special Problems in Education. (1-6)

Arranged. Master of education or doctoral candidates who desire to pursue special research problems under the direction of their advisers may register for credit under this number. Course card must have the title of the problem and the name of the faculty member under whom the work will be done. (Staff)

Ed. 290. Doctoral Seminar. (1)

Arranged. Prerequisite, passing the preliminary examination for a doctor's degree in Education, or recommendation of a doctoral adviser. Analysis of doctoral projects and theses and of other on-going research projects. A doctoral candidate may participate in the Seminar during as many University sessions as he desires, but may earn no more than three semester hours of credit in the Seminar. An Ed.D. candidate may earn in total no more than nine semester hours, and a Ph.D. candidate, no more than eighteen semester hours, in the Seminar and in Ed. 399. (Hovet)

Ed. 399. Research-Thesis. (1-6)

First and second semesters; summer session. Students who desire credit for a master's thesis, a doctoral dissertation, or a doctoral project should use this number. (Staff)

HOME ECONOMICS EDUCATION

H. Ec. Ed. 102. Problems in Teaching Home Economics. (3)

June 24-July 19, daily, 9:30-11:30; A-50. Prerequisite, consent of instructor. A study of the managerial aspects of teaching and administering a home making program; the physical environment, organization, and sequence of instructional units, resource materials, evaluation, home projects. Special emphasis will be given to the construction of units in the area of teaching Family Life and Family Relationships. (Spencer)

H. Ec. Ed. 200. Seminar in the Home Economics Education. (2)

July 22-Aug. 16, daily, 9:30-11:00; A-50. (Spencer)

HUMAN DEVELOPMENT EDUCATION

(In addition to the courses listed below, see Ed. 189-33,-34,-35,-36,-37,-39,-40)

H. D. Ed. 100. Principles of Human Development I. (3)

June 24-August 16, M.T.Th.F., 8:00; J-124. This course gives a general overview of the scientific principles that describe human development, learning and behavior and relates these principles to the task of the school. Intensive laboratory work with case records is an integral part of this course. Ordinarily, H. D. Ed. 100 and H. D. Ed. 101 are not taken concurrently. (Staff)

H. D. Ed. 101. Principles of Human Development II. (3)

June 24-August 16, M.T.Th.F., 9:30; J-124. Continuation of H. D. Ed. 100. which is a prerequisite. These two courses, H. D. 100 and H. D. 101, are designed to meet the usual certificate requirements in educational psychology. (Staff)

H. D. Ed. 112, 114, 116. Scientific Concepts in Human Development I, II, III. (3) (3) (3) June 24-Aug. 2. (Staff)

H. D. Ed. 113, 115, 117. Laboratory in Behavior Analysis I, II, III. (3) (3) (3) June 24-August 2.

Summer workshop courses for undergraduates. In any one summer, concept and laboratory courses must be taken concurrently. For further description, see Six-Week Human Development Workshop, page 18.

H. D. Ed. 200. Introduction to Human Development and Child Study. (3) June 24-August 2.

Section 1—8:00, Daily; J-127.

Section 2—9:30-12:30, Daily; J-127. (Staff)

This course offers a general overview of the scientific principles which describe human development and behavior and makes use of these principles in the study of individual children. When this course is offered during the academic year, each student will observe and record the behavior of an individual child through the semester and must have one half-day a week free for this purpose. The course is basic to further work in child study and serves as a prerequisite for advanced courses where the student has not had field work or at least six weeks of workshop experience in child study. When this course is offered during the summer intensive laboratory work with case records will be submitted for the study of an individual child.

H. D. Ed. 201. Biological Bases of Behavior. (3)

June 24-August 2, Daily, 9:30; J-125. H. D. Ed. 200 or its equivalent must be taken before H. D. Ed. 201 or concurrently. Emphasizes that understanding human life, growth and behavior depends on understanding the ways in which the body is able to capture, control and expend energy. Application throughout is made to human body processes and implications for understanding and working with people. (Staff)

H. D. Ed. 202. Social Bases of Behavior. (3)

June 24-August 2, Daily, 8:00; J-125. H. D. Ed. 200 or its equivalent must be taken before H. D. Ed. 202 or concurrently. Analyzes the socially inherited and transmitted patterns of pressures, expectations and limitations learned by an individual as he grows up. These are considered in relation to the patterns of feeling and behaving which emerge as the result of growing up in one's social group. (Staff)

H. D. Ed. 203. Integrative Bases of Behavior. (3)

June 24-August 2, Daily, 9:30; J-128. H. D. Ed. 200 or its equivalent, H. D. Ed. 201, and H. D. Ed. 202, are prerequisite. Analyzes the organized and integrated patterns of feeling, thinking, learning and behavior which emerge from the interaction of basic biological drives and potentials with one's unique experience growing up in a social group. (Staff)

EDUCATION

H. D. Ed. 211. Peer-culture and Group Processes in Human Development. (3)
June 24-August 2, Daily, 8:00; J-128. H. D. Ed. 200 or its equivalent must be taken before or concurrently. Analyzes the processes of group formation, role-taking and status-winning. It describes the emergence of the "peer-culture" during childhood and the evolution of the child society at different maturity levels to adulthood. It analyzes the developmental tasks and adjustment problems associated with winning, belonging and playing roles in the peer group. (Staff)

H. D. Ed. 212, 214, 216. Advanced Scientific Concepts in Human Development, I, II, III. (3, 3, 3). June 24-August 2. (Staff)

H. D. Ed. 213, 215, 217. Advanced Laboratory in Behavior Analysis, I, II, III. (3, 3, 3). June 24-August 2.

Summer workshop courses for graduates providing credit for as many as three workshops. In any one summer, concept and laboratory courses must be taken concurrently. For further description, see Six-Week Human Development Workshop, page 18. (Staff)

H. D. Ed. 221. Learning Theory and the Educative Process. (3)

June 24-August 2, 9:30; J-126, Daily. Prerequisites, H. D. Ed. 100 and 101 or equivalent. Provides a systematic review of the major theories of learning and their impact on education. Considers factors that influence learning. (Staff)

H. D. Ed. 270. Seminars in Special Topics in Human Development. (2-6)

Arranged. Prerequisites, consent of instructor. An opportunity for advanced students to focus in depth on topics of special interest growing out of their basic courses in human development. (Staff)

INDUSTRIAL EDUCATION

The technical courses which are offered are intended for industrial arts teachers, arts and crafts teachers, education for industry majors, and adult education leaders.

The professional courses are open to industrial arts teachers and supervisors, to vocational-industrial teachers and supervisors, to school administrators and to other graduate students whose planned programs include work in this area.

Ind. Ed. 28. Electricity I. (2)

June 24-August 2, Daily, 12:30; P-212. Laboratory Fee. \$5.00. An introductory course to electricity in general. It deals with the electrical circuit, elementary wiring problems, the measurement of electrical energy, and a brief treatment of radio. (Guy)

Ind. Ed. 33. Automotives I. (3)

June 24-August 2, Daily, 8:00; P-120. Laboratory Fee. \$7.50. Automotives I is a study of the fundamentals of internal combustion engines as applied to transportation. A study of basic materials and methods used in the automotive industry is included. Shop practices are built around the maintenance and minor repair of automobiles and smaller motor driven apparatus. (Merrill)

Ind. Ed. 41. Architectural Drawing. (2)

June 24-August 2, Daily, 11:00; P-208. Laboratory fee. \$5.00. Practical experience is provided in the design and planning of houses and other buildings. Working drawings, specifications, and blue-prints are featured. (Luetkemeyer)

Ind. Ed. 48. Electricity II. (2)

June 24-August 2, Daily, 12:30; P-212. Laboratory fee, \$5.00. Principles involved in a-c and d-c electrical equipment, including heating measurements, motors and controls, electro-chemistry, the electric arc, inductance and reactance, condensers, radio, and electronics. (Guy)

Ind. Ed. 84. Organized and Supervised Work Experience. (3)

June 24-August 16, Arranged. See description under Industrial Education 124. (Herrick, Guy)

Ind. Ed. 121. Industrial Arts in Special Education. (3)

June 24-August 2, Daily, 1:00-4:00; P-214. Laboratory fee \$5.00. This course provides experiences of a technical and theoretical nature in industrial processes applicable for classroom use. Emphasis is placed on individual research in the specific area of one's major interest in special education. (Herrick)

Ind. Ed. 124. Organized and Supervised Work Experience. (3)

June 24-August 16. Arranged. (3 credits for each internship period total: 6 credits). This is a work experience sequence planned for students enrolled in the curriculum, "Education for Industry." The purpose is to provide the students with opportunities for first-hand experiences with business and industry. The student is responsible for obtaining his own employment with the coordinator advising him in regard to the job opportunities which have optimum learning value. The nature of the work experience desired is outlined at the outset of employment and the evaluations made by the student and the coordinator are based upon the planned experiences. The time basis for each internship period is 6 forty-hour weeks or 240 work hours. Any one period of internship must be served through continuous employment in a single establishment. Two internships are required. The two internships may be served with the same business or industry. The completion for credit of any period of internship requires the employer's recommendation in terms of satisfactory work and work attitudes. More complete details are found in the handbook prepared for the student of this curriculum. (Merrill)

Ind. Ed. 150. Training Aids Development. (3)

June 24-August 2, Daily, 8:00; P-300. Study of the aids in common use as to their source and application. Special emphasis is placed on principles to be observed in making aids useful to shop teachers. Actual construction and application of such devices will be required. (Maley)

Ind. Ed. 157. Tests and Measurements. (2)

June 24-August 16, M.W.F., 12:30; P-221. Prerequisite Ed. 150 or consent of instructor. The construction of objective tests for occupational and vocational subjects. (Tierney)

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Ind. Ed. 165. Modern Industry. (3)

June 24-August 16, M.T.Th.F., 12:30; P-300. This course provides an overview of manufacturing industry in the American social, economic, and culture pattern. Representative basic industries are studied from the viewpoints of personnel and management organization, industrial relations, production procedures, distribution of products, and the like. (Harrison)

Ind. Ed. 166. Educational Foundations of Industrial Arts. (2)

June 24-August 2, M.T.Th.F., 8:00; P-221. A study of the factors which place industrial arts education in any well-rounded program of general education. (Luetkemeyer)

Ind. Ed. 169. Course Construction. (2)

June 24-August 16, M.W.F., 11:00; P-221. Surveys and applies techniques of building and reorganizing courses of study for effective use in vocational and occupational schools. (Tierney)

Ind. Ed. 175. Recent Technological Developments in Products and Processes. (3)

June 24-August 2, Daily, 9:30; P-306. This course is designed to give the student an understanding of recent technological developments as they pertain to the products and processes of industry. The nature of the newer products and processes is studied as well as their effect upon modern industry and/or society. (Crosby)

Ind. Ed. 214. School Shop Planning and Equipment Selection. (3)

June 24-August 16, M.T.Th.F., 9:30; P-221. This course deals with principles involved in planning a school shop and provides opportunities for applying these principles. Facilities required in the operation of a satisfactory shop program are catalogued and appraised. (Tierney)

Ind. Ed. 240. Research in Industrial Arts and Vocational Education. (2)

June 24-August 16, Arranged. This is a course offered by arrangement for persons who are conducting research in the areas of industrial arts and vocational education. (Staff)

Ind. Ed. 241. Content and Method of Industrial Arts. (3)

June 24-August 2, Daily, 11:00; P-306. Various methods and procedures used in curriculum development are examined and those suited to the field of Industrial Arts education are applied. Methods of and devices for industrial arts instruction are studied and practiced. (Maley)

Ind. Ed. 248. Seminar in Industrial Arts and Vocational Education. (2)

June 24-August 16, Arranged. (Staff)

Ed. 147. Audio-Visual Education. (3)

Section 1— 8:00, Daily, June 24-August 2; P-300. (Maley)

Section 2— 9:30, Daily, June 24-August 2; P-300. (Schramm)

Section 3—11:00, M.T.Th.F., June 24-August 16; P-300. (Schramm)

(For course description Ed. listing).

LIBRARY SCIENCE EDUCATION

(Students may schedule their courses in any pattern, except that a maximum of one credit hour per week may be earned for each week in attendance).

L. S. Ed. 122. Basic Reference and Information Sources. (3)

8:00-9:20, 9:30-10:50, M.T.Th.F., (Four weeks), June 24-July 19; L-100. Evaluation, selection, and utilization of information sources in subject areas, including encyclopedias, dictionaries, periodical indexes, atlases, yearbooks. Study of bibliographical methods and form. (Myers)

L. S. Ed. 126. Cataloging and Classification of Library Materials. (3)

8:00-9:20, 9:30-10:50, M.T.Th.F., (Four weeks), July 22-August 16; L-100. Principles and practice in the organization of library materials. Dewey Decimal classification, rules for the dictionary catalog. Sears subject headings. Treatment of non-book materials. Cataloging aids and tools. (Myers)

L. S. Ed. 130. Library Materials for Children. (3)

11:00-12:20, 1:30-2:50, M.T.W.Th.F., (3 weeks), July 15-August 2; L-100. Reading interests of children. Advanced study of children's literature. Survey of informational materials in subject fields including: books, periodicals, films, filmstrips, records, pictures, pamphlet materials. (Staff)

Ed. 189-8. Workshop in Instructional Materials. (3)

11:00-12:20, 1:30-2:50, M.T.W.Th.F., (3 weeks), June 24-July 12; L-100. Designed for elementary and secondary teachers, librarians, and administrators. Considers problems in selection, organization, and use of all types of instructional materials in relation to the curriculum. (Staff)

MUSIC EDUCATION

Mus. Ed. 128. Music for the Elementary Classroom Teacher. (3)

June 24-Aug. 2, Daily, 8:00-9:20; B-7. Prerequisite, Music 16 or consent of instructor. A study of the group activities and materials through which the child experiences music. The course is designed to aid music specialists and classroom teachers. It includes an outline of objectives and a survey of instructional methods. (Eisenstadt)

Mus. Ed. 132. Music in the Secondary School. (3)

June 24-Aug. 2, Daily, 9:30-10:50; B-7. A study of the vocal and instrumental programs in the secondary school. A survey of the needs in general music, and the relationship of music to the core curriculum. (Eisenstadt)

Mus. Ed. 175-2. Methods and Materials in Vocal Music for the High School. (2)

July 1-12 only, Daily, 2:00-5:00; Lib. 155. Offered as part of a Workshop in Choral Music for a two-week period. Supplementary fee, \$5.00. Lectures, conferences, and discussions of problems of repertoire, diction, tone production,

EDUCATION

interpretation, and reading of new music. A chorus composed of selected high-school students will be available for demonstrations in the second week of the workshop. The course may be repeated for credit, since different repertoires are covered each time the course is offered. (Beachy, Morris)

Mus. Ed. 180-2. Instrumental Music for the High School. (2)

July 1-12 only, Daily, 2:00-5:00; Arm. 21. Offered as part of a Workshop in Band Music for a two-week period. Supplementary fee, \$5.00. A survey of the repertoires for high school orchestra, band, and small ensemble. Problems of interpretation, intonation, tone quality, and rehearsal techniques. The course may be repeated for credit, since different repertoires are covered each time the course is offered. (Sawhill)

Mus. Ed. 200. Research Methods in Music and Music Education. (3)

June 24-Aug. 2, Daily, 9:30-10:50; B-9. The application of methods of research to problems in the fields of music and music education. The preparation of bibliographies and the written exposition of research projects in the area of the student's major interest. (Grentzer)

SPECIAL EDUCATION

Sp. Ed. 170. Introduction to Special Education. (3)

June 24-Aug. 2, Daily, 8:00; A-104. Designed to give an understanding of the needs of all types of exceptional children, stressing preventive and remedial measures. (Renz)

Sp. Ed. 171-A. Characteristics of Exceptional Children. A. Mentally Retarded.

June 24-Aug. 2, Daily, 9:30; A-130. A study of psychological characteristics of retarded children, including discovery, analysis of causes, testing techniques, case studies, and remedial educational measures. (Renz)

Ed. 189-25. Workshop in Educational Data Processing For Administrators. (2)

July 22-Aug. 2. See workshops in Special Education, pages 21 and 39. (Hebeler, Gates)

Ed. 189-28. Workshop: The Administration and Supervision of Special Education Programs. (3)

July 29-Aug. 9. See workshops in Special Education, pages 21 and 39. (Hebeler, Gates)

Ed. 189-29. Workshop: The Education of Children with Learning Impairments. (4)

June 24-July 19. See workshops in special Education, pages 21 and 39. (Hebeler)

Ed. 189-30. Workshop: The Education of Children With High Intellectual Ability. (4)

June 24-July 19. See Workshops in Special Education, pages 21 and 39. (Hebeler, Simms)

ENGINEERING

C. E. 110. Surveying I. (3)

June 10-June 22, inclusive. Daily, all day; J-103, J-104. Prerequisite: Junior standing or consent of Department. Principles and methods of making plane and topographic surveys. Use, care, and adjustment of instruments. Consistent accuracy and systematic procedures in field work, computations, and mapping are emphasized for obtaining desired objectives. Open only to students who were enrolled in the College of Engineering during the academic year, 1962-63. (Garber)

E. E. 1. Basic Electrical Engineering. (4)

June 24-Aug. 16, M.T.Th.F., 8:00-9:20; J-314A. Sat. 8:00-10:50; S-107A. Prerequisites, Math. 21, Phys. 21 or concurrent registration. Required of sophomores in electrical engineering. Laboratory fee, \$4.00. Basic concepts of electrical potential, current, power, and energy; d-c circuit analysis by mesh-current and nodal methods; network theorems, magnetic field concepts; ferromagnetic circuits. (Rumbaugh)

E. S. 10. Introductory Mechanics. (3)

June 24-Aug. 16, M.W.F., 9:30-10:50, J-323; T.Th., 1:00-3:00, J-323. Prerequisites: Math. 19 (or concurrent registration in Math. 19) and E. S. 1 Free-body Diagrams. Numerical, graphical and vectorial computation applied to elementary problems in statics. Areas, volumes, statical moment, moments of inertia, centroids, radii of gyration. (Yang)

E. S. 20. Mechanics of Materials. (3)

June 24-Aug. 16, M.T.Th.F., 11:00-12:20; J-323. Prerequisites: Math 20, Phys. 20, and E. S. 10. Distortion of engineering materials in relation to changes in stress or temperature. Geometry of internal strain and external displacement. Elementary application to beams, columns, shafts, tanks, trusses, and connections. (Yang)

E. S. 21. Dynamics. (3)

June 24-Aug. 16, M.T.Th.F., 11:00-12:20; J-201. Prerequisites: Math. 21, Phys. 21 (or concurrent registration in Math. 21 and Phys. 21) and E. S. 10. Dynamics of particles and rigid bodies. Principle of work and energy; impulse and momentum. Applications to elementary engineering problems. (Jackson)

M. E. 1. Thermodynamics I. (3)

M.W.F., 8:00-9:20, J-301; W. 1:00-4:00, J-301. Prerequisites: Physics 20; Math 21 concurrently. Required of sophomores in Mechanical and Aeronautical Engineering. Properties, characteristics, and fundamental equation of gases and vapors. Application of first and second laws of thermodynamics in the analysis of basic heat engines, air compression, and vapor cycles. Flow and non-flow processes for gases and vapors. (Eyler)

ENGINEERING, ENGLISH

E. E. 101. Engineering Electronics. (4)

June 24-Aug. 16, M.T.Th.F., 8:00-9:20, J-114; Sat. 8:00-10:50, J-208. Prerequisite: E. E. 100. Required of Juniors in electrical engineering. Laboratory fee, \$4.00. Theory and applications of electron tubes and transistors, associated circuits with emphasis on equivalent-circuit and graphical analysis of audio amplifiers; theory of feedback amplifiers. (Ginnings)

ENGLISH

Eng. 1, 2. Composition and American Literature. (3, 3)

Eng. 1 is the prerequisite of Eng. 2. June 24-August 16. (Barnes, Staff)

Eng. 1—

Section 1—M.T.Th.F., 8:00; A-159.

Section 2—M.T.Th.F., 9:30; A-159.

Section 3—M.T.Th.F., 11:00; A-159.

Eng. 2—

Section 1—M.T.Th.F., 8:00; A-161.

Section 2—M.T.Th.F., 9:30; A-259.

Section 3—M.T.Th.F., 9:30; A-161.

Section 4—M.T.Th.F., 11:00; A-161.

Eng. 3, 4. Composition and World Literature. (3, 3)

Prerequisite Eng. 2 or 21. June 24-August 16. (Cooley, Staff)

Eng. 3—

Section 1—M.T.Th.F., 9:30; A-231.

Section 2—M.T.Th.F., 9:30; A-167.

Section 3—M.T.Th.F., 11:00; A-167.

Section 4—M.T.Th.F., 11:00; A-163.

Eng. 4—

Section 1—M.T.Th.F., 8:00; A-164.

Section 2—M.T.Th.F., 9:30; A-164.

Section 3—M.T.Th.F., 9:30; A-163.

Section 4—M.T.Th.F., 11:00; A-164.

Eng. 101. History of the English Language. (3)

June 24-Aug. 2, Daily, 11:00; A-130. Prerequisite, Eng. 4. (Herman)

Eng. 116. Shakespeare. (3)

June 24-Aug. 16, M.T.Th.F., 9:30; A-228. Prerequisite, Eng. 4. The Roman history plays, the great tragedies, and the dramatic romances. (Cooper)

Eng. 122. Literature of the Seventeenth Century, 1600-1660. (3)

June 24-Aug. 16, M.T.Th.F., 9:30; A-210. Prerequisite, Eng. 4. The major non-dramatic writers (exclusive of Milton). (Mish)

Eng. 135. Literature of the Victorian Period. (3)

June 24-Aug. 2, Daily, 8:00; A-166. Prerequisite, Eng. 4. A study of major Victorian poets. (Cooley)

Eng. 145. The Modern Novel. (3)

June 24-Aug. 16, M.T.Th.F., 8:00; A-163. Prerequisite, Eng. 4. A study of some major American, British, and Continental novelists of the twentieth century. (Portz)

Eng. 151. American Literature. (3)

June 24-Aug. 16, M.T.Th.F., 11:00; A-174. Prerequisite, Eng. 4. American poetry and prose since 1850. (Gravely)

Eng. 218. Seminar in Literature and the Other Arts. (3)

June 24-Aug. 16. Arranged. (Myers)

Eng. 225. Seminar in American Literature. (3)

June 24-Aug. 16. Arranged. Studies in the realistic novel in America. (Hovey)

Eng. 399. Thesis Research. (1-6)

Arranged. (Staff)

ENTOMOLOGY

**Ent. S121. Entomology for Science Teachers. (4)*

Not offered in 1963.

Ent. 198. Special Problems. (1-3)

Credit and prerequisites to be determined by the Department. Investigation of assigned entomological problems. (Staff)

Ent. 301. Advanced Entomology.

Credit and prerequisite to be determined by the Department. To be arranged. Studies of minor problems in morphology, taxonomy and applied entomology, with particular reference to the preparation of the student for individual research. (Staff)

Ent. 399. Research.

Credit depends upon the amount of work done. To be arranged. Required of graduate students majoring in entomology. This course involves research on an approved project. A dissertation suitable for publication must be submitted at the conclusion of the studies as a part of the requirements for an advanced degree. (Staff)

*Intended for teachers.

FOREIGN LANGUAGES

French 0. Elementary French for Graduate Students. (0 or audit)

June 24-Aug. 2, Daily, 11:00; LL-220. Intensive elementary course in the French language designed particularly for graduate students who wish to acquire a reading knowledge. (Alter)

French 1-2. Elementary French. (3, 3)

June 24-Aug. 16, Daily, 8:00 to 10:50; LL-4. Elements of grammar and exercises in pronunciation and conversation. An intensive course. Students enrolled in this course may not take other courses in the summer session. (Demaitre)

French 6-7. Intermediate French. (3, 3)

June 24-Aug. 16, Daily, 8:00 to 10:50; LL-106. Study of linguistic structure, further development of audio-lingual and writing ability, and reading of literary texts with discussion in French. An intensive course. Students enrolled in this course may not take other courses in the summer session. Prerequisite: French 2 or equivalent. (Hall)

French 141. French Literature of the Twentieth Century. (3)

June 24-Aug. 2, Daily, 9:30; LL-220. Drama and poetry from Symbolism to the present time. (Alter)

French 245. Seminar in the Contemporary Novel. (3)

June 24-Aug. 2. Conducted in French. Study of the works of Marcel Proust. Arranged. (Alden)

German 0. Elementary German for Graduate Students. (0 or audit)

June 24-Aug. 2, Sec. 1, Daily, 8:00; LL-13—Sec. 2, Daily, 9:30; LL-13. Intensive elementary course in the German language designed particularly for students who wish to acquire a reading knowledge. (Blair)

German 1-2. Elementary German. (3, 3)

June 24-Aug. 16, Daily, 8:00 and 11:00 to 11:50; LL-204. Elements of grammar and exercises in pronunciation and conversation. An intensive course. Students enrolled in this course may not take other courses in the summer session. (Anderson)

German 6-7. Intermediate German. (3, 3)

June 24-Aug. 16, Daily, 8:00 and 10:00 to 10:50; LL-201. Study of linguistic structure, further development of audio-lingual and writing ability, and reading of literary texts with discussion in German. An intensive course. Students enrolled in this course may not take other courses in the summer session. Prerequisite; German 2 or equivalent. (Boyd)

Spanish 1-2. Elementary Spanish. (3, 3)

June 24-Aug. 16, Daily, 8:00 and 10:00 to 10:50; LL-301. Elements of grammar and exercises in pronunciation and conversation. An intensive course. Students enrolled in this course may not take other courses in the summer session.
(Rodriguez)

Spanish 6-7. Intermediate Spanish. (3, 3)

June 24-Aug. 16, Daily, 8:00 and 10:00 to 10:50; LL-203. Study of linguistic structure, further development of audio-lingual and writing ability, and reading of literary texts with discussion in Spanish. An intensive course. Prerequisite Spanish 2 or equivalent. Students enrolled in this course may not take other courses in the summer session.
(Panico)

Spanish 116. Cervantes. (3)

June 24-Aug. 2, Daily, 8:00; LL-1. Study of *Don Quixote*. Conducted in Spanish.
(Goodwyn)

Spanish 291. Seminar. (3)

June 24-Aug. 2. Stylistic study of Lope de Vega. Conducted in Spanish. Arranged.
(Goodwyn)

Chinese 1-2. Elementary Chinese. (3, 3)

June 24-Aug. 16, Daily, 8:00 and 10:00 to 10:50; LL-3. Conversation, pronunciation, drill in simple characters. An intensive course. Students enrolled in this course may not take other courses in the summer session.
(Chen)

GEOGRAPHY

Geog. 10. General Geography. (3)

Sec. 1, June 24-Aug. 16, M.T.Th.F., 8:00; Q-210. Sec. 2, 11:00; Q-104. Required of all majors in geography; recommended for all minors; Geog. 10 is suggested for students of Arts and Sciences, Education and others who may desire a background in geography and its application to problems of their respective fields. Introduction to geography as a field of study. A survey of the content, philosophy, techniques, and application of geography and its significance for the understanding of world problems.
(Chaves, Mika)

Geog. 30. Principles of Morphology. (3)

June 24-Aug. 16, M.T.Th.F., 9:30; Q-210. A study of the physical features of the earth's surface and their geographic distribution, including subordinate land forms. Major morphological processes, the development of landforms, and the relationships between various types of landforms and land use problems. (Ahnert)

Geog. 100. Regional Geography of Eastern Anglo-America. (3)

June 24-Aug. 16, M.T.Th.F., 11:00; Q-210. Prerequisite, Geog. 1, 2 or Geog. 10, or permission of the instructor. A study of the cultural and economic geography and the geographic regions of Eastern United States and Canada, including an analysis of the significance of the physical basis for present-day diversification of development, and the historical geographic background.
(Mika)

GEOGRAPHY, GOVERNMENT AND POLITICS

Geog. 104. Geography of Major World Regions. (3)

June 24-Aug. 16, M.T.Th.F., 8:00; Q-213. A geographic analysis of the patterns, problems, and prospects of the world's principal human-geographic regions, including Europe, Anglo-America, the Soviet Union, the Far East, and Latin America. Emphasis upon the casual factors of differentiation and the role geographic differences play in the interpretation of the current world scene. This course is designed especially for teachers. (Chaves)

Geog. 120. Economic Geography of Europe. (3)

June 24-Aug. 16, M.T.Th.F., 12:30; Q-210. The natural resources of Europe in relation to agricultural and industrial development and to present-day economic and national problems. (Ahnert)

GOVERNMENT AND POLITICS

G. and P. I. American Government. (3)

June 24-Aug. 16. This course is designed as the basic course in government for the American Civilization Program, and it or its equivalent is a prerequisite to all other courses in the Department. It is a comprehensive study of governments in the United States—national, state, and local.

Section 1—M.T.Th.F., 8:00; Q-211. (Staff)

Section 2—M.T.Th.F., 9:30; Q-211. (Staff)

Section 3—M.T.Th.F., 11:00; Q-211. (Staff)

G. and P. 60. State and Local Government. (3)

June 24-Aug. 16, M.T.Th.F., 9:30; Q-213. Prerequisite, G. & P. 1. Study of the functioning and problems of state and local government in the United States with illustrations from Maryland jurisdictions. (Byrd)

G. and P. 101. International Political Relations. (3)

June 24-Aug. 16, M.T.Th.F., 8:00; Q-110. Prerequisite, G. & P. 1. A study of the major factors underlying international relations, the influence of geography, climate, nationalism, and imperialism, and the development of foreign policies of the major powers. (Jacobs)

G. and P. 110. Principles of Public Administration. (3)

June 24-Aug. 16, M.T.Th.F., 11:00; Q-213. Prerequisite, G. & P. 1. A study of public administration in the United States, giving special attention to the principles of organization and management and to fiscal, personnel, planning, and public relations practices. (O'Donnell)

G. and P. 154. Problems of World Politics. (3)

June 24-Aug. 16, M.T.Th.F., 9:30; Q-228. Prerequisite, G. & P. 1. A study of governmental problems of international scope, such as causes of war, problems of neutrality, and propaganda. Students are required to report on readings from current literature. (Steinmeyer)

GOVERNMENT AND POLITICS, HISTORY

G. and P. 174. Political Parties. (3)

June 24-Aug. 16, M.T.Th.F., 8:00; Q-132. Prerequisite, G. & P. 1. A descriptive and analytical examination of American political parties, nominations, elections, and political leadership. (Hathorn)

G. and P. 197. Comparative Governmental Institutions. (3)

June 24-Aug. 16, M.T.Th.F., 11:00; Q-228. Prerequisite, G. & P. 1. A study of major political institutions, such as legislatures, executives, courts, administrative systems, and political parties, in selected foreign governments. (Jacobs)

G. and P. 261. Problems of Government and Politics (National). (3)

To be arranged. Q-369. (Hathorn)

G. and P. 261. Problems of Government and Politics (International). (3)

To be arranged. Q-369. (Steinmeyer)

G. and P. 399. Thesis. (1-6)

To be arranged. (Staff)

HISTORY

H. 5. History of American Civilization. (3)

June 24-Aug. 16.

Section 1—M.T.Th.F., 8:00; A-52. (Gatell)

Section 2—M.T.Th.F., 9:30; A-320. (Gatell)

Section 3—M.T.Th.F., 9:30; A-321. (Ferguson)

Section 4—M.T.Th.F., 11:00; A-52. (Minger)

H. 6. History of American Civilization. (3)

June 24-Aug. 16.

Section 1—M.T.Th.F., 8:00; A-167. (Wellborn)

Section 2—M.T.Th.F., 9:30; A-133. (Smith)

Section 3—M.T.Th.F., 11:00; A-106. (Smith)

H. 41. Western Civilization. (3)

June 24-Aug. 16, M.T.Th.F., 8:00; A-207. This course is designed to give the student an appreciation of the civilization in which he lives in its broadest setting. The study begins with the collapse of classical civilization and comes to the present. (Breslow)

H. 42. Western Civilization. (3)

June 24-Aug. 16, M.T.Th.F., 11:00; A-207. This course is designed to give the student an appreciation of the civilization in which he lives in its broadest setting. The study begins with the collapse of classical civilization and comes to the present. (Breslow)

HISTORY

H. 71. Islamic Civilization. (3)

June 24-Aug. 16, M.T.Th.F., 9:30; A-207. This course seeks to give the student an insight into a cultural heritage that dominates the lives of over four hundred million people today. The study covers Islam in Spain, North Africa, Africa below the Sahara, India, and Indonesia as well as the Middle East. The approach is humanistic within an historical framework. (Sharabi)

H. 101. American Colonial History. (3)

June 24-Aug. 16, M.T.Th.F., 8:00; A-209. Prerequisite, H. 5, 6, or the equivalent. The settlement and development of colonial America to the middle of the eighteenth century. (Ferguson)

H. 121. History of the American Frontier. (3)

June 24-Aug. 16, M.T.Th.F., 8:00; A-133. Prerequisite, H. 5, 6, or the equivalent. The Trans-Alleghany West. The westward movement into the Mississippi Valley. (Minger)

H. 129. The United States and World Affairs. (3)

June 24-Aug. 16, M.T.Th.F., 11:00; A-209. A consideration of the changed position of the United States with reference to the rest of the world since 1917. (Wellborn)

H. 159. History of European Ideas. (3)

June 24-Aug. 16, M.T.Th.F., 9:30; G-205. Prerequisites, H. 41, 42 or H. 53, 54, or the equivalent. Beginning with a review of the basic Western intellectual traditions as a heritage from the Ancient World, the course will present selected important currents of thought from the scientific revolution of the sixteenth and seventeenth century down through the eighteenth century. (Stromberg)

H. 169. Europe in the Nineteenth Century, 1815-1919. (3)

June 24-Aug. 16, M.T.Th.F., 9:30; N-203. Prerequisites, H. 41, 42, or H 53, 54. A study of the political, economic, social and cultural development of Europe form the Congress of Vienna to the Franco-Prussian War. (Bauer)

H. 200. Historiography: Techniques of Historical Research and Writing. (3)

Arranged. An introduction to the professional study of history, including an examination of the sources and nature of historical knowledge, historical criticism, and synthesis. Required of all candidates for advanced degrees in history. (Bauer)

H. 202. Historical Literature: American. (1-6)

Arranged. Readings in the standard works and monographic studies to meet the requirements of qualified graduate students who need intensive concentration in American history. (Staff)

H. 260. Historical Literature: European. (1-6)

Arranged. Readings in the standard works and monographic studies to meet the requirements of qualified graduate students who need intensive concentration in European history. (Staff)

H. 265. Seminar in Middle Eastern History. (3)

Arranged. A seminar in selected problems in Middle Eastern history. (Sharabi)

H. 290. Historical Literature: Asian. (1-6)

Arranged. Readings in the standard works and monographic studies to meet the requirements of qualified graduate students who need intensive concentration in Asian history. (Staff)

H. 399. Thesis Research. (1-6)

Arranged. (Staff)

HOME ECONOMICS

FAMILY LIFE AND MANAGEMENT

H.M. 161. Resident Experience in Home Management. (3)

June 24-Aug. 2. Prerequisites, H.M. 50, 160; Food 150; or equivalent. Laboratory Fee, \$10.00. Experience in planning, coordinating and participating in the activities of a household, composed of a faculty member, a group of students, and possibly an infant on a part-time basis. A charge of \$40 for food and supplies is assessed each student. Students not living in dormitories are billed at the rate of \$5.00 per week for a room in the Home Management House. (Staff)

H.E. 190f or 290f. Special Problems in H.E. (Management) (2)

July 8-July 19, arranged. Special problems in management and family economics. (Wolf)

FOOD, NUTRITION, AND INSTITUTION MANAGEMENT

F&N 130. Special Problems in Food and/or Nutrition. (1-3)

June 24-Aug. 16, arranged. Consent of instructor. Problem may be in any one of several areas of food and nutrition and will carry the name of the basic area; e.g., child nutrition, adolescent nutrition. (Brown)

H.E. 190e or 290e. Special Problems in H.E. (Food and Institutional Food) (1-6)

June 24-Aug. 16, arranged. (Brown)

I.M. 152. Institution Food. (3)

July 29-August 16, 9:00-12:00. Prerequisites, Food 52, 53; Nutr. 20 or 121; or consent of instructor. Laboratory fee, \$10.00. Application of basic principles and procedures of food preparation to quantity food preparation. Standardizing recipes, menu planning for various types of food services; determination of food costs. (Visiting Lecturer)

F&N. 399. Research. (1-6)

Credit according to work accomplished. (Staff)

GENERAL HOME ECONOMICS

H.E. 190c or 290c. Special Problems in H.E. (General Home Economics). (1-6)

June 24-Aug. 16, arranged. (Lippeatt)

HOME ECONOMICS

H.E. 202. Integrative Aspects of Home Economics. (2)

July 8-July 19, 9:30-12:30. Prerequisite, consent of instructor. Scope and focus of total professional field with emphasis on purposes and functions as related to family and other group living. Impact of the changing social, economic, technological, and educational situation upon home economics. (Visiting Lecturer)

H.E. 399. Research. (1-6)

Credit according to work accomplished. (Staff)

H.E. 190. Colloquium. (1)

July 22-July 26. Current trends, issues, and developments in five areas of home economics. (T&C, F&N, Fam. Life and Ch. Dev., Mgt. and Housing, Home Art). (Staff & Consultants)

PRACTICAL ART

P.A. 1. Design. (3)

June 24-Aug. 2, 8:00-9:20, Daily; H-101. Art expression through materials such as opaque water color, wet clay, colored chalk, and lithograph crayon which are conducive to freeing techniques. Elementary lettering, action figures, abstract design, three-dimensional design and general composition study. Consideration of art as applied to daily living. (Staff)

H.E. 190a. Special Problems In Home Economics (Applied Art). (2)

June 24-July 5, 10:00-1:00. (Beckwith)

TEXTILES AND CLOTHING

Clo. 220. Special Studies in Clothing. (2-4)

June 24-Aug. 16. Laboratory fee, \$3.00. Special areas of clothing are selected according to interest of student; consumer, design, functional aspects, and/or evaluation and analysis studies are made of those areas. Reports may be written, oral, or by group presentation. (Mitchell)

H.E. 190b, h or 290b, h. Special Problems in H.E. (Textiles or Clothing). (1-6)

June 24-Aug. 16. Arranged. (Mitchell)

T&C 233. Synthesis of Behavioral Science Concepts in Tex. and Clo. (3)

July 29-Aug. 16, 9:00-12:00. Prerequisites, Psych. 21 and/or consent of department. Analysis and interpretation of interdisciplinary research methods and findings with reference to behavioral aspects of textiles and clothing. Consideration given to measurement and relation of clothing interest and behavior to attitudes, values, roles, and social status groupings. (Compton)

T&C 399. Research. (1-6)

Credit according to work accomplished. (Staff)

HORTICULTURE

Hort. 198. Special Problems. (2)

Credit arranged according to work done. For major students in horticulture or botany. Four credits maximum per student.

Hort. 399. Advanced Horticultural Research. (2-12)

Credit granted according to work done.

JOURNALISM

Journ. 173. Scholastic Journalism. (2)

June 24-Aug. 2, M.T.Th.F., 8:00. Introduction to theory and practice in production of high school and junior high publications. Outline for teaching high school course in journalism. (Crowell)

MATHEMATICS

Math. 10. Introduction to Mathematics. (3)

Section 1—June 24-Aug. 16, M.T.Th.F., 8:00- 9:20; Y-4.	(Steely)
Section 2—June 24-Aug. 16, M.T.Th.F., 9:30-10:50; Y-4.	(Steely)
Section 3—June 24-Aug. 16, M.T.Th.F., 9:30-10:50; Y-2.	(Shepherd)
Section 4—June 24-Aug. 16, M.T.Th.F., 11:00-12:20; Y-2.	(Shepherd)

Prerequisite, at least one unit each of high school algebra and geometry; completion of high school algebra recommended. Open to students not majoring in mathematics or the physical and engineering sciences. Logic, sets, counting, probability; sequences, sums; elementary algebra and transcendental functions and their geometric representations; systems of linear equations, factors, matrices.

Math. 11. Introduction to Mathematics. (3)

Section 1—June 24-Aug. 16, M.T.Th.F., 8:00- 9:20; Y-5.	(Staff)
Section 2—June 24-Aug. 16, M.T.Th.F., 9:30-10:50; Y-5.	(Lepson)
Section 3—June 24-Aug. 16, M.T.Th.F., 9:30-10:50; Y-17.	(Henney)
Section 4—June 24-Aug. 16, M.T.Th.F., 11:00-12:20; Y-71.	(Lepson)

Prerequisite, Math 10. Math 11 is a continuation of Math 10.

Math. 18. Elementary Mathematical Analysis. (5)

June 24-Aug. 16, Daily, 8:00-9:20 and M.W., 12:30-1:50; Y-122. (Richeson)

Prerequisite, high school algebra completed and plane geometry. Open to students in the physical sciences, engineering, and education. The elementary mathematical functions, especially algebraic, logarithmic, and exponential are studied by

MATHEMATICS

means of their properties, their graphical representations, the identities connecting them, and the solution of equations involving them. The beginning techniques of calculus, sequences, permutations and combinations and probability are introduced.

Math. 19. Elementary Mathematical Analysis. (5)

Section 1—June 24-Aug. 16, Daily, 8:00-9:20 and M.W., 12:30-1:50; Y-18.
(Bari)

Section 2—June 24-Aug. 16, Daily, 8:00-9:20 and M.W., 12:30-1:50; Y-19.
(Zemel)

Section 3—June 24-Aug. 16, Daily, 8:00-9:20 and M.W., 12:30-1:50; Y-121.
(Correl)

Prerequisite, Math 18 or equivalent. Open to students in the physical sciences, engineering, and education. A continuation of the content of Math 18 including a study of the trigonometric and inverse trigonometric functions, determinants, the conic sections, solid analytic geometry, and an introduction to finding areas by integration.

Math. 20. Calculus. (4)

Section 1—June 24-Aug. 16, Daily, 8:00-9:20; Y-14. (Sprecher)

Section 2—June 24-Aug. 16, Daily, 8:00-9:20; Y-15. (Staff)

Prerequisite, Math 19 or equivalent. Open to students in the engineering, education, and the physical sciences. Limits, derivatives, differentials, maxima and minima, curve sketching, curvatures, kinematics, integration.

Math. 21. Calculus. (4)

Section 1—June 24-Aug. 16, Daily, 9:30-10:50; Y-14. (Staff)

Section 2—June 24-Aug. 16, Daily, 9:30-10:50; Y-15. (Staff)

Prerequisite, Math 20 or equivalent. Open to students in engineering, education, and the physical sciences. Integration with geometric and physical applications, partial derivatives, space geometry, multiple integrals, infinite series.

Math. 30. Elements of Mathematics. (4)

Section 1—June 24-Aug. 16, Daily, 8:00-9:20; Y-2. (Staff)

Section 2—June 24-Aug. 16, Daily, 9:30-10:50; Y-16. (Staff)

Prerequisite, high school elementary algebra. Required course in mathematics for elementary education majors and open only to students in this field. Topics from algebra and number theory are presented to provide a proper mathematical insight into arithmetic for the prospective elementary school teacher. Topics included are: inductive proof, the system of natural numbers based on the Peano axioms, mathematical systems, groups, fields, the system of integers, the system of rational numbers, congruences, divisibility, systems of enumeration. Registration limited to 30 students per section.

Math. 31. Elements of Geometry. (4)

June 24-Aug. 16, Daily, 8:00-9:20; Y-16.

(Staff)

Prerequisite, Math 30 or its equivalent. Required course in mathematics for elementary education majors and open only to students in this field. Topics included are: review of the structure of a mathematical system, a mathematical system of sets, non-metric geometry, logic, congruence, measurement, similarity, graphs on a plane, a miniature geometry, spherical geometry. Registration limited to 30 students.

Math. 64. Differential Equations for Engineers. (3)

June 24-Aug. 16, M.T.Th.F., 8:00-9:20; Y-26.

(Henney)

Prerequisite, Math 21 or equivalent. Required of most students in the engineering curriculums. Differential equations of the first and second order with emphasis on their engineering applications.

Math. 124. Introduction to Projective Geometry. (3)

June 24-Aug. 16, M.T.Th.F., 8:00-9:20; Y-27.

(Staff)

Prerequisite, Math 21 or equivalent. Open only to teachers or undergraduates preparing to teach with emphasis on the teaching of mathematics and science. Elementary projective geometry, projective transformations, cross ratio, harmonic division, projective coordinates, projective theory of conics, Laguerre's definition of angle.

Math. 182. Foundations of Algebra. (3)

June 24-Aug. 2, Daily, 8:00-9:20; Y-101.

(Ehrlich)

Prerequisite, participation in the N. S. F. Institute in Mathematics for Junior High School Teachers of Mathematics. Material background for experimental units for grades 7 and 8, from the Maryland Project and the School Mathematics Study Group, including topics such as: algebra, number theory, algebraic structures.

Math. 184. Foundations of Analysis. (3)

June 24-Aug. 16, M.T.Th.F., 9:30-10:50; Y-27.

(Staff)

Prerequisite, one year of college mathematics or consent of instructor. Open only to students in the graduate program with emphasis on the teaching of mathematics and science. A study of the limit concept and the calculus. (Previous knowledge of calculus is not required).

Math. 199. National Science Foundation Summer Institute for Teachers of Science and Mathematics Seminar. (3)

June 24-Aug. 2, Daily, 9:30-10:50; Y-101.

(Lehner)

Prerequisite, participation in the N. S. F. Institute in Mathematics for Junior High School Teachers of Mathematics. Material background for work in experimental units for grades 7 and 8 from Maryland Project and from School Mathematics Study Group.

MICROBIOLOGY

**Microb. 1. General Microbiology. (4)*

June 24-Aug. 16. Four lectures and four two-hour laboratory periods a week. Lecture, 8:00; F-101. Laboratory, 9:00, 10:00, M.T.Th.F.; T-210. Laboratory fee, \$11.00. The physiology, culture, and differentiation of bacteria. Fundamental principles of Microbiology in relation to man and his environment. (Hetrick)

Microb. 181. Microbiological Problems. (3)

June 24-Aug. 16. Six two-hour laboratory periods a week. To be arranged. Prerequisite, 16 credits in microbiology. Registration only upon consent of the instructor. Laboratory fee, \$11.00. This course is arranged to provide qualified majors in microbiology, and majors in allied fields, an opportunity to pursue specific microbiological problems under the supervision of a senior staff member of the Department. (Faber)

Microb. 399. Research.

To be arranged. Credits according to work done. Laboratory fee, \$11.00. The investigation is outlined in consultation with and pursued under the supervision of a senior staff member of the Department. (Staff)

MUSIC

Music 16. Music Fundamentals for the Classroom Teacher. (3)

June 24-Aug. 2. Daily, 9:30-10:50; B-1. Open to students in elementary education or childhood education; other students take Music 7. (In the Summer Session, also open to classroom teachers.) Music 7 and 16 may not both be counted for credit. The fundamentals of music theory and practice, related to the needs of the classroom and kindergarten teacher, and organized in accord with the six area concept of musical learning. (DeVermond)

Music 20. Survey of Music Literature. (3)

June 24-Aug. 16. M.T.Th.F., 11:00-12:20; B-7. Open to all students except music and music education majors, and may be taken by students who qualify to select courses within Group II of the American Civilization Program. Music 1 and 20 may not both be taken for credit. A study of the principles upon which music is based, and an introduction to the musical repertoires performed in America today. (Pennington)

Music 168. Chamber Music. (3)

June 24-Aug. 2. Daily, 8:00-9:20; B-9. Prerequisite, Music 120, 121 or the equivalent. The history and literature of chamber music from the early Baroque period to the present. Music for trio sonata, string quartet and quintet, and combinations of piano and string instruments is studied. (Henderson)

Music 169. Choral Music. (3)

June 24-Aug. 2. Daily 8:00-9:20; B-1. Prerequisite, Music 120, 121 or the equivalent. The history and literature of choral music from the Renaissance to the present, with discussion of related topics such as Gregorian chant, vocal chamber music, etc. (Jordan)

Music 200. Advanced Studies in the History of Music. (3)

June 24-Aug. 2. Daily, 11:00-12:20; B-1. Prerequisites, Music 120 and 121 or their equivalents. A critical study of one style period will be undertaken; in the 1963 Summer Session, musical style from the Renaissance to the Contemporary period will be studied. The course may be repeated for credit, since a different area will be chosen each time the course is offered. (Jordan)

APPLIED MUSIC

June 24-Aug. 16. A new student or one taking applied music for the first time at this University should register for Music X. He will receive the proper classification at the end of the Summer Session.

Every student taking an applied-music course should, in addition to registering for the proper course number, indicate the instrument chosen by adding a section number as follows:

Sec. 1, Piano	Sec. 4, Viola	Sec. 11, Horn
Sec. 2, Voice	Sec. 7, Flute	Sec. 12, Trumpet
Sec. 3, Violin	Sec. 9, Clarinet	Sec. 13, Trombone

Music 12, 13, 52, 53, 112, 113, 152, 153. Applied Music. (2)

Hours to be arranged with instructor; B-4. Prerequisite, the next lower course in the same instrument. Two one-hour lessons and a minimum of twelve practice hours per week for eight weeks. Special fee of \$40.00 for each course. (Staff)

PHILOSOPHY*Phil. 1. Philosophy for Modern Man. (3)*

June 24-Aug. 16, M.T.Th.F., 11:00; LL-302. Modern man's quest for understanding of himself and his world, with particular reference to American ideas and ideals. This course is one of a group of four courses within Elective Group I of the American Civilization Program. It may also be taken by students who qualify by tests to select substitute courses in the Program (provided the student has not taken the course as his Group I elective). (Pasch)

Phil. 41. Elementary Logic and Semantics. (3)

June 24-Aug. 16, M.T.Th.F., 9:30; LL-302. No prerequisites. An introductory study of logic and language, intended to help the student increase his ability to employ language with understanding and to reason correctly. Topics treated include: the uses and abuses of language, techniques for making sound inferences, and the logic of science. (Pasch)

PHILOSOPHY, PHYSICAL EDUCATION, RECREATION AND HEALTH

Phil. 292. Selected Problems in Philosophy. (1-3)

Hours arranged. Intensive study of selected topics under individual supervision. (Staff)

Phil. 399. Research. (1-3)

Hours arranged. (Staff)

PHYSICAL EDUCATION, RECREATION AND HEALTH

P. E. S10. Physical Education Activities. (1-6)

Section 1—Swimming (1), Daily, 3:10-4:00; Pool. (Husman)

Section 2—Tennis (1), Daily, 2:00-2:50; Courts. (Husman)

Fee, \$6.00. Instruction and practice in selected sports: tennis, badminton, golf, archery, swimming and square dance.

Note 1. Not available for credit by physical education majors.

Note 2. Non-majors in physical education may use this credit to fulfill graduation requirements in physical education.

P. E. 120. Physical Education for the Elementary School. (3)

Daily, 9:30-10:50; GG-310. This course is designed to orient the general elementary teacher to physical education. Principles and practices in elementary physical education will be presented and discussed and a variety of appropriate activities will be considered from the standpoint of their use at the various grade levels. (Humphrey)

P. E. 160. Theory of Exercise. (3)

Daily, 9:30-10:50; GG-205. Prerequisite, Zool. 1, 14, and 15, and P. E. 100 or the equivalent. A study of exercise and its physiological and kineisiological bases. Special emphasis is placed upon the application of exercise to the development and maintenance of physical efficiency. Corrective therapy conditioning for athletics, the effects of exercise and training on the human organism, fatigue, staleness, relaxation, and the nature of athletic injuries are investigated. (Massey)

P. E. 180. Measurement in Physical Education and Health. (3)

Daily, 11:00-12:20; GG-205. The application of the principles and techniques of educational measurement to the teaching of health and physical education; study of the functions and techniques of measurement in the evaluation of student progress toward the objectives of health and physical education, and in the evaluation of the effectiveness of teaching. (Eyler)

P. E. 189. Field Laboratory Projects and Workshops. (3-6)

June 24-Aug. 2. A course designed to meet the needs of persons in the field with respect to workshops and research projects in special areas of knowledge not covered by regularly structured courses. (Hanson)

PHYSICAL EDUCATION, RECREATION AND HEALTH

P. E. 196. Quantitative Methods. (3)

Daily, 12:30-1:50; GG-205. A course covering the statistical techniques most frequently used in research pertaining to Physical Education, Recreation, and Health Education. An effort will be made to provide the student with the necessary skills, and to acquaint him with the interpretations and practical applications of these techniques. (Nelson)

P. E. 200. Seminar in Physical Education, Recreation, and Health. (1)

Arranged; GG-205. (Massey)

P. E. 201. Foundations in Physical Education, Recreation, and Health. (3)

Daily, 8:00-9:20; GG-205. A study of history, philosophy and principles of physical education, recreation and health as applied to current problems in each area and as related to general education. (Eyler)

June 24-Aug. 2. A course designed to meet the needs of persons in the field with

P. E. 202. Status and Trends in Elementary School Physical Education. (3)

Daily, 11:00-12:20, GG-205. An analysis of the current status and implications for future trends in physical education at the elementary school level. Open to experienced persons in all phases of education. (Humphrey)

P. E. 210. Methods and Techniques of Research. (3)

Daily, 8:00-9:20; GG-205. A study of methods and techniques of research used in Physical Education, Recreation, and Health Education; an analysis of examples of their use; and practice in their application to problems of interest to the student. (Massey)

P. E. 288. Special Problems in Physical Education, Recreation, and Health. (1-6)

Arranged. Master or Doctoral candidates who desire to pursue special research problems under the direction of their advisers may register for 1-6 hours of credit under this number. (Staff)

P. E. 399. Research-Thesis. (1-5)

Arranged. Students who desire credits for a Master's thesis, a Doctoral dissertation, or a Doctoral project should use this number. (Staff)

Hea. 105. Basic Driver Education. (3)

Daily, 8:00-9:20; GG-201. Prerequisites, Hea. 50, 70, 80. This course is a study of the place of the automobile in modern life and deals with the theory and practice of the following: traffic accidents and other traffic problems; objectives and scope of driver-education; motor vehicle laws and regulations, basic automobile construction and maintenance from the standpoint of safety; methods in classroom instruction; aids to learning and practice driving instruction. (Tompkins)

PHYSICAL EDUCATION, RECREATION AND HEALTH, PHYSICS AND ASTRONOMY

Hea. 145. Advanced Driver Education. (3)

Daily, 9:30-10:50; GG-201. Prerequisites, Hea. 50, 70, 80, 105. Progressive techniques, supervision, and practice of advanced driver-education; comprehensive programming for traffic safety; psychology of traffic safety; improving the attitudes of young drivers; teaching to meet driving emergencies; program planning in driver-education; consumer education; resources and agencies; the teacher and driver-education; measuring and evaluating results; driver-education for adults; new developments in driver-education; insurance and liability, and the future of driver-education. (Tompkins)

**Hea. 170. The Health Program in the Elementary School. (3)*

Daily, 8:00-9:20; W-112. This course, designed for the elementary school classroom teacher, analyzes biological, sociological, nutritional and other factors which determine the health status and needs of the individual elementary school child. The various aspects of the school program are evaluated in terms of their role in health education. The total school health program is surveyed from the standpoint of organizing and administration, and health appraisal. Emphasis is placed upon modern methods and current materials in health instruction. (The State Department of Education accepts this course for biological science credit.)

Hea. 240. Modern Theories of Health. (3)

Daily, 11:00-12:20; W-112. This course is designed to review the developments in those scientific and medical areas upon which the concepts of modern health education are based. (Johnson)

PHYSICS AND ASTRONOMY

Astronomy 150. Special Problems in Astronomy.

Arranged. Prerequisite, major in physics or astronomy and/or consent of advisor. Research or special study. Credit according to work done. (Staff)

Astronomy 190. Honors Seminar.

Arranged. Credit according to work done. Enrollment is limited to students admitted to the Honors Programs in Astronomy. (Staff)

Astronomy 399. Research.

Arranged. Credit according to work done. Laboratory fee, \$10 per credit hour. Prerequisite, an approved application for admission to candidacy or special permission of the Department of Physics and Astronomy. (Staff)

**Phys. 130, 131. Basic Concepts of Physics. (2,2)*

M.T.Th.F., 9:10-10:50; C-132. Prerequisite, junior standing. Lecture demonstration fee, \$4.00. A primarily descriptive course intended mainly for students in the liberal arts and high school science teachers. This course does not satisfy the requirement of professional schools or serve as a substitute for other physics

*Intended for teachers.

courses. The main emphasis in the course will be on the concepts of physics, their evolution, and their relation to other branches of human endeavor. This course is specially recommended for high school science teachers. It should be taken concurrently with Phys. 150, Section 2. (Smithson, Staff)

Phys. 150.¹ Special Problems in Physics. Section 1.

Arranged. Credit according to work done. Hours and location arranged. Research or special study. Laboratory fee, \$10.00 per credit hour when appropriate. Prerequisite, major in physics and consent of Department Head. (Staff)

Phys. 150.¹ Special Problems in Physics. Section 2. Basic Experiments. (2)

Two 4-hour laboratories a week. T.F., 2:00-6:00; Z-315. The course should be taken concurrently with Physics 130, 131. It will consist of fundamental laboratory experiments in physics. (Smithson, Staff)

Phys. 190. Independent Studies Seminar.

Arranged. June 24-Aug. 16. Credit according to work done, each semester. Hours and location arranged. Enrollment is limited to students admitted to the Independent Studies Program in Physics. (Faculty)

Phys. 230. Seminar. (Arranged). (1)

One 2-hour class per week. Arranged. (Faculty)

Phys. 248. Special Topics in Modern Physics. (Arranged). (2)

Arranged. Two 2-hour lectures per week. (Faculty)

Phys. 399. Research.

Credit according to work done. Hours and location arranged. Laboratory fee, \$10.00 per credit hour. Prerequisite, approved application for admission to candidacy or special permission of the Department Chairman. Thesis research conducted under approved supervision. (Faculty)

POULTRY

P. H. S111. Poultry Breeding and Feeding. (1)

To be arranged. This course is designed primarily for teachers of vocational agriculture and extension service workers. The first half will be devoted to problems concerning breeding and the development of breeding stock. The second half will be devoted to nutrition. (Staff)

P. H. 205. Poultry Literature. (1-4)

To be arranged. Readings on individual topics are assigned. Written reports required. Methods of analysis and presentation of scientific material are discussed. (Staff)

P. H. 207. Poultry Nutrition Laboratory. (2)

To be arranged. To acquaint graduate students with common basic nutrition research techniques useful in conducting experiments with poultry. Actual feeding trials with chicks, as well as bacteriological and chemical assays will be performed. (Creek)

¹ Intended for teachers.

POULTRY, PSYCHOLOGY, SOCIOLOGY

P. H. 399. Poultry Research.

Credit in accordance with work done. Practical and fundamental research with poultry may be conducted under the supervision of staff members toward the requirements for the degrees of M.S. and Ph.D. (Staff)

PSYCHOLOGY

All courses in Psychology are offered June 24-Aug. 16, eight weeks, four periods per week, M.T.Th.F.

Psych. 1. Introduction to Psychology. (3)

Two sections: Section 1—9:30-10:50; M-104. Section 2—11:00-12:20; M-105. A basic introductory course intended to bring the student into contact with the major problems confronting psychology and the more important attempts at their solution. (Waldrop, Turnage)

Psych. 110. Educational Psychology. (3)

8:00; M-105. Prerequisite, Psych. 1. Researches on fundamental psychological problems encountered in education. Measurement and significance of individual differences; learning, motivation, transfer of training and the educational implications of theories of intelligence. (Waldrop)

Psych. 131. Abnormal Psychology. (3)

8:00-9:20; M-104. Prerequisite, Psych. 1. The nature, diagnosis, etiology and treatment of mental disorders. (Turnage)

Psych. 225. Practicum in Counseling and Clinical Procedures. (1-3)

Hours arranged. Prerequisite, consent of instructor. (Magoon)

Psych. 288. Special Research Problems. (1-3)

Hours arranged. Prerequisite, consent of individual faculty supervisor. (Staff)

Psych. 399. Research for Thesis. (1-8)

Hours arranged. Prerequisite, consent of individual faculty supervisor. (Staff)

SOCIOLOGY

Soc. 1. Sociology of American Life. (3)

M.T.Th.F., (1) 8:00-9:20; A-324. Sociological analysis of the American social structure, metropolitan, small town, and rural communities; population distribution, composition and change; social organization. (Hirzel and Staff)

Soc. 51. Social Pathology. (3)

M.T.Th.F., 9:30-10:50; A-258. Prerequisite, sophomore standing. Personal-social disorganization and maladjustment; physical and mental handicaps; economic inadequacies; programs of treatment and control. (Staff)

Soc. 52. Criminology. (3)

M.T.Th.F., 8:00-9:20; A-320. Prerequisite, sophomore standing. Criminal behavior and the methods of its study; causation; typologies of criminal acts and offenders; punishment, correction and incapacitation; prevention of crime. (Staff)

Soc. 105. Cultural Anthropology. (3)

M.T.Th.F., 11:00-12:20; A-258. A survey of the simpler cultures of the world, with attention to historical processes and the application of anthropological theory to the modern situation. (Anderson)

Soc. 121. Population. (3)

M.T.Th.F., 11:00-12:20; A-324. Population distribution and growth in the United States and the world; population problems and policies. (Hirzel)

Soc. 125. Cultural History of the Negro. (3)

M.T.Th.F., 8:00-9:20; A-258. The cultures of Africa south of the Sahara and the cultural adjustments of the Negro in North and South America. (Anderson)

Soc. 131. Introduction to Social Service. (3)

M.T.Th.F., 9:30-10:50; A-324. General survey of the field of social-welfare activities; historical development; growth, functions and specialization of agencies and services, private and public. (McElhenie)

Soc. 153. Juvenile Delinquency. (3)

M.T.Th.F., 11:00-12:20; A-321. Juvenile delinquency in relation to the general problem of crime; analysis of factors underlying juvenile delinquency; treatment and prevention. (Staff)

Soc. 164. The Family and Society. (3)

M.T.Th.F., 12:30-1:50; A-258. Prerequisite, Soc. 1 and Soc. 64 or equivalent. Study of the family as a social institution; its biological and cultural foundations, historic development, changing structure and function; the interactions of marriage and parenthood, disorganizing and reorganizing factors in present day trends. (Staff)

Soc. 166. Interviewing and Problem Solving in Social Work. (3)

M.T.Th.F., 11:00-12:20; A-320. The principles of interviewing and other diagnostic techniques as applies to social problems with particular reference to family and child behavior. (McElhenie)

SPEECH

Speech 1. Public Speaking. (3)

Prerequisite for advanced speech courses. The preparation and delivery of short original speeches; outside readings; reports; etc. It is recommended that this course be taken during the freshman year. Laboratory fee \$1.00.

SPEECH

- Section 1—June 24-Aug. 2, Daily, 8:00-9:20; R-103. (Carpenter)
Section 2—June 24-Aug. 16, M.T.Th.F., 9:30-10:50; R-103. (Linkow)
Section 3—June 24-Aug. 2, Daily, 9:30-10:50; R-102. (Menser)
Section 4—June 24-Aug. 16, M.T.Th.F., 11:00-12:20; R-103. (Linkow)

Speech 3. Fundamentals of General American Speech. (3)

June 24-Aug. 2, Daily, 8:00-9:20; R-102. Training in auditory discrimination of speech sounds, rhythms and inflections of general American Speech. Analysis of the physiological bases of speech production and the phonetic elements of speech reception. This course is required of speech majors and recommended for foreign students and majors in nursery and elementary education. (Staff)

Speech 105. Speech Handicapped School Children. (3)

June 24-Aug. 2, Daily, 9:30-10:50; R-109. Prerequisite, Speech 3 for undergraduates. The occurrence, identification and treatment of speech handicaps in the classroom. An introduction to speech pathology. (Hendricks)

Speech 106. Clinical Practice. (1-3)

June 24-Aug. 2, T.F., 12:30-1:50, and arranged; R-109. Prerequisite, Speech 105. A laboratory course dealing with the various methods of correction plus actual work in the clinic. Fee \$1.00 per credit hour. (Shaftel)

Speech 111. Seminar. (3)

June 24-Aug. 2. Prerequisites, senior standing and consent of instructor. Present-day speech research. Hours arranged. (Strausbaugh)

Speech 112. Phonetics. (3)

June 24-Aug. 2, Daily, 11:00-12:30; R-109. Prerequisite, Speech 3 or consent of instructor. Training in the recognition and production of the sounds of spoken English, with an analysis of their formation. Practice transcription. Mastery of the International phonetic alphabet. Laboratory fee, \$3.00. (Kavanagh)

Speech 139. Theatre Workshop. (3)

June 24-Aug. 2, Daily, 9:30-10:50. Consent of instructor. A laboratory course designed to provide the student with practical experience in all phases of theatre production. Radio Studio. (Pugliese)

Speech 141. Introduction to Audiometry. (2)

June 24-Aug. 2, M.T.Th.F., 9:30-10:50; R-101. Laboratory fee, \$2.00. Analysis of various methods and procedures in evaluating hearing losses. Required for students whose concentration is in speech and hearing therapy. (Kavanagh)

Speech 149. Television Workshop. (3)

June 24-Aug. 2, Daily, 11:00-12:20; R-9. Prerequisites, Speech 22, Speech 140, and Speech 148, or consent of instructor. Two hour lecture, four hour laboratory. Laboratory fee, \$10.00. (Batka)

Speech 211. Advanced Clinical Practice. (1-3)

June 24-Aug. 2, T.F., 12:30-1:50; R-109 and arranged. Prerequisites, 12 hours in Speech Pathology and Audiology. Supervised training in the application of clinical methods in the diagnosis and treatment of speech and hearing disorders. Laboratory fee, \$1.00 per hour. (Shaftel)

Speech 214. Clinical Audiometry. (3)

June 24-Aug. 2. Hours and room arranged. Prerequisites, 3 hours in audiology and consent of instructor. Testing of auditory acuity with pure tones and speech. Laboratory fee, \$3.00. (Causey)

Speech 261. Introduction to Graduate Study in Speech. (3)

June 24-Aug. 16, M.T.Th.F., 8:00-9:20; R-101. (Weaver)

Speech 399. Thesis. (1-6 credits)

Arranged. (Staff)

ZOOLOGY

Zool. 1.¹ General Zoology. (4)

June 24-Aug. 16. Four one-hour lectures, and four two-hour laboratory periods a week. Lectures M.T.Th.F., 8:00; N-201; laboratory M.T.Th.F., 9:00, 10:00; CC Bldg. Laboratory fee, \$8.00. This course, which is cultural and practical in its aim, deals with the basic principles of animal life. Special emphasis is placed on human physiology. (Grollman)

Zool. 55S. Development of the Human Body. (2)

June 24-Aug. 16. Three lecture periods a week. M.W.F., 11:00-12:20; F-112. A study of the main factors affecting pre-natal and post-natal growth and development of the child with special emphasis on normal development. (Staff)

†*Zool. 104. Genetics.* (3)

June 24-Aug. 16. Four lecture periods a week. M.T.Th.F., 9:30-10:50; F-112. Prerequisite, one course in zoology or botany. A consideration of the basic principles of heredity. (Staff)

Zool. 150. Special Problems in Zoology. (1 or 2)

To be arranged. Prerequisite, major in zoology or biological sciences, a minimum of 3.0 cumulative average in the biological sciences, and consent of instructor. Research or integrated reading in zoology. A student may register several times and receive up to 8 semester hours of credit. (Staff)

Zool. 208. Special Problems in Zoology.

Credit hours, and topics to be arranged. Laboratory fee, \$8.00. (Staff)

Zool. 399. Research.

Credit to be arranged. Research on thesis project only. Laboratory fee, \$8.00. (Staff)

¹ Recommended for teachers.

The Faculty

SUMMER SESSION, 1963

JUNE 24-AUGUST 16

DR. ORVAL L. ULRY, *Director**

FRANK O. AHNERT, *Associate Professor of Geography*
DR. PHIL., Heidelberg University, 1953.

DOUGLAS W. ALDEN, *Professor and Head of Foreign Languages*
A.B., Dartmouth College, 1933; A.M., Brown University, 1934; PH.D., 1938.

CHARLES R. ANDERSON, *Instructor in Office Management and Techniques*
B.A., University of Maryland, 1957; M.ED., 1959.

FRANK G. ANDERSON, *Associate Professor of Sociology*
A.B., Cornell University, 1941; PH.D., University of New Mexico, 1951.

HAROLD M. ANDERSON, *Visiting Lecturer in Education*
B.A., St. Olaf College, 1939; M.A., University of Minnesota, 1947; PH.D., University of Wisconsin, 1952.

HENRY ANDERSON, *Assistant Professor of Statistics*
B.A., University of London, 1939; M.B.A., Columbia University, 1948; PH.D., 1959.

J. PAUL ANDERSON, *Assistant Professor of Education*
B.S., University of Minnesota, 1942; M.A., 1947; PH.D., 1960.

ROBERT R. ANDERSON, *Assistant Professor of Foreign Languages*
A.B., University of Missouri, 1947; M.A., University of Illinois, 1949; PH.D., Ohio State University, 1958.

VERNON E. ANDERSON, *Professor of Education and Dean of the College of Education*
B.S., University of Minnesota, 1930; M.A., 1936; PH.D., University of Colorado, 1942.

THOMAS G. ANDREWS, *Professor and Head, Department of Psychology*
A.B., 1937, University of Southern California; M.A., 1939, University of Nebraska; PH.D., 1941, University of Nebraska.

ELEANOR M. ANGLIN, *Visiting Lecturer in Education*
B.S., University of Pennsylvania, 1931; A.M., 1934; PH.D., Cornell University.

*Resigned as Director effective November 3, 1962; organized offering constituting the 1963 summer session.

FACULTY

WILLIAM T. AVERY, *Professor and Head, Department of Classical Languages and Literatures*

B.A., Western Reserve University, 1934; M.A., 1935; PH.D. 1937. Fellow of the American Academy in Rome, 1937-39.

RUTH BARI, *Instructor of Mathematics*

B.A., Brooklyn College, 1939; M.A., Johns Hopkins University, 1943.

JACK C. BARNES, *Associate Professor of English*

B.A., Duke University, 1939; M.A., 1947; PH.D., University of Maryland, 1954.

CHARLES BARRET, *Assistant Professor Economics*

A.B., Loyola College, 1942; M.A., Maryland University, 1950; PH.D., 1961.

CLAUDE J. BARTLETT, *Assistant Professor of Psychology*

B.S., 1954, Denison University; M.A., 1956, Ohio State University; PH.D., 1958, Ohio State University.

GEORGE F. BATKA, *Associate Professor Speech and Dramatic Art*

B.A., University of Wichita, 1938; M.A., University of Michigan, 1941.

RICHARD H. BAUER, *Professor*

B.A., University of Chicago, 1924; M.A., 1928; PH.D., 1935.

CORNELIA BECKWITH, *Assistant Professor of Practical Art*

PH.B., University of Chicago, 1929; M.A., Columbia University, 1937.

ROBERT L. BENNETT, *Assistant Professor of Economics*

B.A., University of Texas, 1951; M.A., 1955; PH.D., 1963.

WILLIAM BENNETT, *Instructor in Education*

B.S., Georgia Teachers College, 1939; M.A., Teachers College, Columbia University, 1947.

JOEL H. BERMAN, *Assistant Professor of Music*

B.S., Juilliard School of Music, 1951; M.A., Columbia University, 1953; D.M.A., University of Michigan, 1961.

WILLIAM E. BICKLEY, *Professor and Head of Entomology*

B.S., University of Tennessee, 1934; M.S., 1936; PH.D., University of Maryland, 1940.

JOSEPH C. BLAIR, *Instructor of Foreign Languages*

B.A., University of Maryland, 1951; M.A., 1960.

URSEL D. BOYD, *Instructor of Foreign Languages*

LL.B., Washington University, 1954; M.A., University of Maryland, 1960.

GLENN O. BLOUGH, *Professor of Education*

B.A., University of Michigan, 1929; M.A., 1932; LL.D., Central Michigan College of Education, 1950.

MARGARET BOTT, *Assistant Professor of Education and Counselor in Counseling Center*

B.A., St. John's University, 1952; M.S., Hunter College, 1959; PH.D., Michigan State University, 1962.

ALFRED C. BOYD, *Assistant Professor of Chemistry*

B.S., Canisius College, 1951; PH.D., Purdue University, 1957.

RICHARD M. BRANDT, *Associate Professor of Education, Institute for Child Study*

B.M.E., University of Virginia, 1943; M.A., University of Michigan, 1949; ED.D., University of Maryland, 1954.

GERALD S. BRINTON, *Chairman, Social Studies Department, Cedar Cliff High School, Camp Hill, Pennsylvania. Visiting Lecture in Education*

B.S., State Teachers College, Shippenburg, Pennsylvania, 1940; M.A., University of Maryland, 1951.

ELEANOR A. BROOME, *Instructor in Early Childhood Education*

B.A., University of Maryland, 1943; M.ED., 1957.

DALE W. BROWN, *Assistant Professor of Library Science Education*

A.B., David Lipscomb College, 1953; A.M., George Peabody College for Teachers, 1955.

JOSHUA R. C. BROWN, *Associate Professor of Zoology*

B.A., Duke University, 1948; M.A., 1949; PH.D., 1953.

HELEN I. BROWN, *Associate Professor and Head, Department of Food, Nutrition, and Institution Management*

B.S., University of Vermont, 1938; M.A., Columbia University, 1948; PH.D., Michigan State University, 1960.

RUSSELL G. BROWN, *Associate Professor of Botany*

B.S., West Virginia University, 1929; M.S., 1930; PH.D., University of Maryland, 1934.

ELBERT M. BYRD, *Assistant Professor of Government and Politics*

B.S., American University, 1953; M.A., 1954; PH.D., 1959.

MARIE D. BRYAN, *Associate Professor of Education*

B.A., Goucher College, 1923; M.A., University of Maryland, 1945.

RICHARD H. BYRNE, *Professor of Education*

B.A., Franklin and Marshall College, 1938; M.A., Columbia University, 1947; ED.D., 1952.

GORDON M. CAIRNS, *Dean of Agriculture and Professor of Dairy Husbandry*

B.S., Cornell University, 1936; M.S., 1938; PH.D., 1940.

CHARLES CALHOUN, *Professor of Finance*

A.B., University of Washington, 1925; M.B.A., 1930.

FACULTY

- VIRGUS R. CARDOZIER, *Professor and Head of Agricultural and Extension Education*
B.S., Louisiana State University. 1947; M.S., 1950; PH.D., Ohio State University, 1952.
- RONALD H. CARPENTER, *Instructor of Speech and Dramatic Art*
B.A., Western Reserve University, 1954; M.A., 1959.
- JOHN CARRUTHERS, *Assistant Professor of Chemistry*
- G. DONALD CAUSEY, *Associate Research Professor of Speech and Dramatic Art*
M.A., University of Maryland, 1950; M.A., 1951; PH.D., Purdue University. 1954.
- JAMES R. CHAMPLIN, *Instructor of Recreation*
A.B., Earlham College, 1953; M.S., Indiana University. 1956, RE.DIR., 1956.
- ANTONIO F. CHAVES, *Assistant Professor of Geography*
M.A., Northwestern University. 1948; D.LITT., University of Habana. 1941; PH.D., University of Habana. 1946.
- CHUNJEN C. CHEN, *Instructor of Foreign Languages*
B.S., Cornell University. 1919; M.S., University of Maryland. 1920.
- MILDRED COLE, *Lecturer in Education and Mathematics*
B.S., University of Illinois. 1943; M.S., University of Wisconsin. 1951.
- NORMA COMPTON, *Associate Professor of Textiles and Clothing*
A.B., George Washington University. 1950; M.S., University of Maryland. 1957; PH.D., 1962.
- J. ALLEN COOK, *Professor of Marketing*
B.A., College of William & Mary. 1928; M.B.A., Harvard University. 1936; PH.D., Columbia University. 1947.
- SHEROD M. COOPER, JR., *Instructor of English*
B.S., Temple University. 1951; M.S., 1953.
- ELLEN CORREL, *Assistant Professor of Mathematics*
B.S., Douglas College (Rutgers University). 1951; M.S., Purdue University, 1953; PH.D., 1957.
- JOHN L. COULTER, *Assistant Professor of English*
B.A., American University. 1934; M.A., University of North Carolina. 1936.
- RICHARD D. CREEK, *Assistant Professor of Poultry Science*
B.S., Purdue University. 1951; M.S., 1954; PH.D., 1955.
- EDMUND D. CROSBY, *Assistant Professor of Industrial Education*
B.A., Western Michigan University. 1934; M.A., Colorado A.&M. College. 1941.
- JOHN M. CURTIS, *Professor and Head, Agricultural Economics*
B.S., North Carolina State University. 1947; M.S., 1950; PH.D., University of Maryland. 1961.

- J. FRANK DAME, *Visiting Lecturer in Business Education*
 B.S., Bay Path Institute, Springfield, Massachusetts. 1925; M.S., New York University, 1930; D.ED., Temple University, 1938.
- RICHARD E. DAVIS, *Professor and Head of Dairy Science*
 B.S., University of New Hampshire. 1950; M.S., Cornell University. 1952; PH.D., 1953.
- TOWNES L. DAWSON, *Associate Professor of Business Law*
 B.B.A., University of Texas. 1943; B.A., U. S. Merchant Marine Academy. 1946; M.B.A., University of Texas. 1947; PH.D., 1950; LL.B., 1954.
- CHAUNCEY M. DAYTON, *Instructor in Education*
 A.B., University of Chicago. 1955.
- ANN DEMAITRE, *Instructor of Foreign Languages*
 B.A., Columbia University. 1950; M.A., University of California. 1951; M.S., Columbia University. 1952.
- ROBERT L. DETENBECK, *Assistant Professor of Physics*
 B.S., University of Rochester. 1954; PH.D., Princeton. 1962.
- MARY F. DE VERMOND, *Assistant Professor of Music*
 B.MUS., Howard University, 1942; M.A., Columbia University. 1948; ED.D., University of Maryland. 1959.
- CHARLES B. EDELSON, *Assistant Professor of Accounting*
 B.B.A., University of New Mexico. 1949; M.B.A., Indiana University. 1950; C.P.A., Maryland, 1951.
- GERTRUDE EHRLICH, *Associate Professor of Mathematics*
 B.S., Georgia State College for Women. 1943; M.A., University of North Carolina, 1945; PH.D., University of Tennessee. 1953.
- BEULA EISENSTADT, *Assistant Professor Music and Education*
 B.A., Queens College. 1949; M.A., Columbia University. 1954.
- HOWARD R. ERICKSON, *Visiting Lecturer*
 B.S., Indiana State Teachers College. 1952; M.S., Pennsylvania State University. 1956; PH.D., Cornell University. 1959.
- GAYLORD B. ESTABROOK, *Professor of Physics*
 B.S.C., Purdue University. 1921; M.S.C., Ohio State University. 1922; PH.D., University of Pittsburgh. 1932.
- KENNETH E. EVERARD, *Assistant Professor*
 B.A., New York State College for Teachers. Albany, New York; M.S., 1955; ED.D., Indiana University, Bloomington, Indiana. 1962.
- ADDISON BERNARD EYLER, *Associate Professor of Mechanical Engineering*
 B.S., University of Maryland. 1947; M.S., 1950.
- MARVIN H. EYLER, *Associate Professor of Physical Education*
 B.A., Houghton College, 1942; M.S., University of Illinois. 1948; PH.D., 1956.

FACULTY

- JOHN E. FABER, *Professor and Head of the Department of Microbiology*
B.S., University of Maryland, 1926; M.S., 1927; PH.D., 1937.
- FRANK FAIRBANK, *Visiting Lecturer in Education*
A.B., Loyola College, 1927; M.A., St. Mary's College (Baltimore), 1928.
- E. JAMES FURGUSON, *Associate Professor*
B.A., University of Washington, 1939; M.A., 1941; PH.D., 1951.
- JOHN E. FOSTER, *Professor and Head of Animal Science*
B.S., North Carolina State College, 1926; M.S., Kansas State College, 1927; PH.D., Cornell University, 1937.
- LESTER M. FRALEY, *Dean of College of Physical Education, Recreation and Health*
A.B., Randolph-Macon College, 1928; M.A., Peabody College, 1937; PH.D., 1939.
- RALPH D. FREENY, *Instructor of Art*
B.A., University of Maryland, 1960.
- DANIEL LEADY GARBER, JR., *Instructor in Civil Engineering*
B.S., University of Maryland, 1952; M.S., 1959.
- HELEN GARSTENS, *Assistant Professor of Education and Mathematics and Associate Director of the University of Maryland Mathematics Project*
B.A., Hunter College, 1932.
- ROBERT GATES, *Visiting Lecturer in Education*
B.S., Syracuse University, 1946; M.S., 1947; ED.D., 1956.
- J. RAYMOND GERBERICH, *Visiting Professor in Education*
B.A., University of Iowa, 1922; M.A., 1928; PH.D., 1929.
- JOHN GIBLETTE, *Assistant Professor of Education and Assistant Director—Testing and Research, University Counseling Center*
B.A., George Washington University, 1947; M.A., University of Minnesota, 1952; PH.D., University of Pennsylvania, 1960.
- GUY W. GIENGER, *Associate Professor of Agricultural Engineering*
B.S., University of Maryland, 1933; M.S., 1936.
- ROBERT MEADE GINNINGS, *Instructor in Electrical Engineering*
B.S., University of Maryland, 1958; M.S., 1960.
- JACOB D. GOERING, *Assistant Professor of Education, Institute for Child Study*
B.A., Bethel College, 1941; B.D., Bethany Seminary, 1949; PH.D., University of Maryland, 1959.
- FRANK GOODWYN, *Professor of Foreign Languages*
B.A., Texas College of Arts and Industries, 1939; M.A., 1940; PH.D., University of Texas, 1946.
- WILLIAM H. GRAVELY, JR., *Associate Professor of English*
B.A., College of William and Mary, 1925; M.A., University of Virginia, 1934; PH.D., 1953.

JEAN D. GRAMBS, *Associate Professor of Education*

B.A., Reed College. 1940; M.A., Stanford University. 1941; ED.D., 1948.

ROBERT L. GREEN, *Professor and Head of Agricultural Engineering*

B.S.A.E., University of Georgia. 1934; M.S., Iowa State College. 1939; PH.D., Michigan State University. 1953. Registered Professional Engineer.

KENNETH GREENBERG, *Professor of Education*

B.S., Ohio State. 1951; M.A., 1952; PH.D., Western Reserve University. 1960.

ROSE MARIE GRENTZER, *Professor of Music*

B.A., MUS.ED., Carnegie Institute of Technology. 1935; B.A., Music. 1936; M.A., 1939.

SIDNEY GROLLMAN, *Associate Professor of Zoology*

B.S., University of Maryland. 1947; M.S., 1949; PH.D., 1952.

FOSTER E. GROSSNICKLE, *Visiting Professor in Education*

B.A., Blue Ridge College. 1917; M.A., University of Pennsylvania. 1919; PH.D., Columbia University. 1930.

FRANCIS S. GRUBAR, *Assistant Professor of Art*

B.A., University of Maryland. 1948; M.A., 1949; M.A., Johns Hopkins University. 1952.

KENNETH H. GUY, *Instruction of Industrial Education*

B.S., State University of New York. Buffalo. 1959; M.S., 1962.

MARY ANNE HALL, *Instructor in Education*

B.A., Marshall University. 1955; M.ED., University of Maryland. 1959.

THOMAS W. HALL, *Assistant Professor of Foreign Languages*

B.A., University of Maryland. 1938; M.A., Middlebury College, 1950; PH.D., University of Maryland. 1958.

DALE L. HANSON, *Assistant Professor of Physical Education*

B.A., St. Olaf College. 1952; M.S., Mankato State College. 1956; PH.D., Michigan State University. 1962.

HORACE V. HARRISON, *Associate Professor of Government and Politics*

B.A., Trinity University. Texas. 1932; M.A., University of Texas. 1941; PH.D., 1951.

PAUL E. HARRISON, JR., *Professor of Industrial Education*

B.ED., Northern Illinois State College. 1942; M.A., Colorado State College, 1947; PH.D., University of Maryland. 1955.

GUY B. HATHORN, *Associate Professor of Government and Politics*

B.A., University of Mississippi. 1940; M.A., 1942; PH.D., Duke University. 1950.

FACULTY

IRVIN C. HAUT, *Director of Experiment Station and Professor and Head of Horticulture*

B.S., University of Idaho. 1928; M.S., State College of Washington. 1930; PH.D., University of Maryland. 1933.

JEAN R. HEBELER, *Assistant Professor of Education and Coordinator of Special Education Program*

B.S., State University of New York. College for Teachers. 1953; M.S., University of Illinois, 1956; ED.D., Syracuse University, 1960.

NORMAN HEIM, *Instructor of Music*

B.MUS.ED., Evansville College. 1951; M.MUS., Eastman School of Music. 1952; D.M.A., 1962.

HUBERT HENDERSON, *Assistant Professor of Music and Director of University Bands*

B.A., University of North Carolina, 1941; M.A., 1950; PH.D., 1962.

RICHARD HENDRICKS, *Professor of Speech and Dramatic Art*

B.A., Franklin College, 1937; M.A., Ohio State University, 1939; PH.D., 1956.

KENNETH R. HENERY-LOGAN, *Assistant Professor of Chemistry*

B.S., McGill University, 1942; PH.D., McGill University, 1946.

DAGMAR R. HENNEY, *Instructor of Mathematics*

B.S., University of Miami. 1954; M.S., 1956.

HAROLD J. HERMAN, *Assistant Professor of English*

A.B., University of Maryland. 1952; PH.D., University of Pennsylvania. 1960.

IRVING WEYMOUTH HERRICK, JR., *Instructor of Industrial Education*

B.S., Gorham State Teachers College. Gorham, Maine. 1954; M.ED., University of Maryland, 1960.

FRANK M. HETRICK, *Assistant Professor of Microbiology*

B.S., Michigan State University. 1954; M.S., University of Maryland. 1960; PH.D., 1962.

RICHARD T. HIGHTON, *Associate Professor of Zoology*

B.A., New York University, 1950; M.S., University of Florida. 1953; PH.D., 1956.

ROBERT S. HIMES, *Assistant Professor of Accounting*

B.S., American University. 1951; M.B.A., 1955; PH.D., 1962.

ROBERT K. HIRZEL, *Assistant Professor of Sociology*

B.A., Pennsylvania State College. 1946; M.A., 1950; PH.D., Louisiana State University, 1954.

KENNETH O. HOVET, *Professor of Education*

B.A., St. Olaf College. 1926; PH.D., University of Minnesota, 1950.

- RICHARD B. HOVEY, *Associate Professor of English*
 B.A., University of Cincinnati. 1942; M.A., Harvard University. 1943; PH.D., 1950.
- JAMES H. HUMPHREY, *Professor of Physical Education*
 A.B., Denison College. 1933; A.M., Western Reserve University. 1946; ED.D., Boston University. 1951.
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THE UNIVERSITY is the rear guard and the advance agent of society. It lives in the past, the present and the future. It is the storehouse of knowledge; it draws upon this depository to throw light upon the present; it prepares people to live and make a living in the world of today; and it should take the lead in expanding the intellectual horizons and the scientific frontiers, thus helping mankind to go forward—always toward the promise of a better tomorrow.

From "The State and the University"
the inaugural address of
President Wilson H. Elkins,
January 20, 1955,
College Park, Maryland.

